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95UM0335A Moscow PRAVDA in Russian 7 Mar 95 p 1

[Article by Nikolay Kozhanov: "How Much It Would Cost To Put Groznyy Back on Its Feet"]

[FBIS Translated Text] The roll of war drums followed by situation reports on the combat activities of the opposing forces is being heard evermore rarely in communications from Chechnya (is the lull to last long?). On the other hand—a heartening sign—there are increasingly more reports of the first, albeit still very weak, sprouts of a peaceful rebirth. In the Chechen capital for example, military police are actively working in this direction, not only rooting out snipers, thieves, and marauders with OMON help, but also appraising enterprises and institutions suitable for restoration, making an accounting of surviving inhabitants, and getting humanitarian assistance and water to them.

But the war is making its presence known. A shop manufacturing automatic weapons was discovered in a certain Groznyy house.

This is in the capital. But in a number of other cities and rayons of the republic, Dudayev's followers still control the situation. Even here, of course, serious differences have revealed themselves in many cases between fighters and the local population, which has absolutely no desire to follow the fate of Groznyy in its own settlements. Moreover, a schism is forming in the Dudayev elite in connection with the latest defeats. It is reported that when Dudayev's Chief of Staff, Aslan Maskhadov, stated at a meeting with the inhabitants of Shali that "the possibilities and resources for armed struggle have been exhausted and any further resistance is senseless," Dzhokhar himself soon arrived on the scene with another leader, Yandarbiyev, in tow, and did everything to refute the positions taken by Maskhadov.

Whatever the truth is, judging from everything there is still a long way to go before efforts toward Chechnya's peaceful rebirth can begin on a broad front. And this is going to be unbelievably costly to Russia, which is presently mired in mind-boggling financial deficits. Were we to believe RF Minister of Construction Yefim Basin, just restoring the housing pool and social infrastructure of Groznyy will require not less than 3 years and 3 trillion rubles.

Yes, establishing "constitutional order" in Chechnya is going to cost a pretty penny!

104th Airborne Still in Combat in Chechnya

95UM0338A Moscow KRASNAYA ZVEZDA in Russian 7 Mar 95 pp 1,3

[Article by Aleksandr Gusev and Sergey Knyazkov, KZ special correspondents in Chechnya: "The 104th Is Not Getting Out of the Fighting"]

[FBIS Translated Text] The claims of a lull in combat action in Chechnya are only partially true. The fighters have abandoned Groznyy, but at the same time, they are preparing to hold the population centers of Argun, Shali and Gudermes. As before, the subunits and units of the Ministry of Defense bear the brunt of the task of blockading Dudayev's fighters.

We flew by helicopter from Mozdoc to the Khankala airport, and then forced our way by armored troop carrier to the combined regiment of the 104th Airborne (Ulyanovsk) Division. The command of the Tsevernyy force of Russian troops had asked us to write about the airborne troops, but we also had our own reasons for visiting them—it was there that our colleague, Col Vladimir Mikhaylovich Zhitarenko, special correspondent for KRASNAYA ZVEZDA, had died on New Year's night. He had not had time to write about the division—we had to do it....

At the command post we met Col Sergey Vyacheslavovich Voznesenskiy, division commander. He was sitting on a chair near the entrance to the command-staff vehicle, and did not appear to have any great reaction to the thunder of artillery fire or the sounds of shells bursting. When he heard that KRASNAYA ZVEZDA correspondents had come to his division, he winced as if he had a toothache.... But he invited us into the vehicle, not forgetting to shout to the sentry:

"Be ready for the fire to turn our way. Watch out! If that happens--give us a yell so that we have time to jump out."

Voznesenskiy put us in the picture. Today the combined regiment of the division would hold the position from the population center of Prigorodnoye, and after that, Komsomolskoye—the northern part of Argun. The tasks were to reveal the enemy's weapon emplacements and shift the groups of fighters. And neutralize them.

"Well, you can practically hear for yourselves," the colonel gave a deep sigh. "That's the way it is every day."

The intensity of the firing was increasing. The distance separating the airborne assault force and the fighters was 300-400 meters. The little Argun River separated the sides: we could observe them—and they us. We could see that reinforcements were approaching them. Incidentally, things were most intensive on the day of the truce.

According to intelligence information, the airborne assault force is being resisted by a force of up to 2,000 men, reinforced by 10 tanks. It has, in addition, 10 field pieces and about 15-20 mortars. On 2 March, the pilots reported that they had destroyed, in the suburbs of Komsomolskoye, a "Shilka" (self-propelled four-barrel anti-aircraft gun).

The enemy tanks, constantly roaming around, worry the airborne force. For the last three days, the artillery had been "at work," and up to this week their small-arms weapons and grenade-launchers had not ceased firing.

On 3 March, when we were with the airborne force, it was again under artillery attack.

The field commanders are known to the airborne troops mainly by the call signs: Gorets-1, Gorets-2, 33d.... Radio interceptions attested to the fact that some of the fighters are leaving their positions, and some of them, on the contrary, were ready to continue fanatical resistance.

The ring of the field telephone interrupted our conversation:

"One wounded?! They gave the command to take cover?"—Voznesenskiy questioned the artillery commander, almost furiously.

A new ring of the telephone informed the division commander of the last name of the wounded man—Bychkov, Igor Valeryevich, private.

"Have they finished? Did the spotter give anything?" Voznesenskiy asked. To all appearances, the answer did not satisfy him:

"Glide down over the chief of the missile forces and artillery corps so that the jet-propelled weapons are ready and aimed in the direction of the Argun. If they fire at our positions again, conceal your personnel and let the division work. Let them take cover there—we can't suffer any losses right now!"

We were starting to say goodbye and asked him to name the division commander about whom we would have to write. This request was refused, though. Everyone is working in a common cause.

Voznesenskiy suggested that we familiarize ourselves with the notebook in which had been entered the basic stages of the military path of the combined 104th and VDD regiment. The lines for almost every day here were sparing of words: the routes of shifting the unit, the battles, the names of the geographical check points.... It indicated that from 20 December 1994 to 18 February 1995, 30 persons had died, 122 had been wounded, and 13 had sustained wounds, but had not left their units. Equipment losses were 9 units of motorized and 14 units of armored equipment. It indicated a total of 12 last names of soldiers and officers who had distinguished themselves. There are, of course, many more of them—airborne heroes—but we decided that the division commander was right—we will write about specific heroes a little later. The events of just the one day, 3 March, speak for themselves—the airborne force is not getting out of the fighting.

Chechnya Border Troops Seen Containing Conflict

95UM0300A Moscow SEGODNYA in Russian 18 Feb 95 p 3

[Article by Yuriy Golotyuk: "Russian Frontiers in the Depth of Russia"; "The Border in the Zone of the Chechen Conflict: on Land, in the Sky, and at Sea"]

[FBIS Translated Text] Yesterday the director of the Federal Border Service (FPS) of Russia Col-Gen Andrey Nikolayev flew from Moscow to the Caucasus. Mr. Nikolayev plans to visit sectors of the Russian-Azerbaijan and Russian-Georgian borders and the training center of the border troops in Nalchik, in order to make sure on the spot the extent to which the service which he leads has succeeded in implementing the decision of the RF Security Council on reliable closing of the borders of the region of the Chechen conflict. Around 5 thousand Russian border guards today serve as part of a separate border troops *komendatura* of the Caucasian Special Border District, whose mission includes direct monitoring of the borders with Chechnya. If you include the neighboring regions, around 31 thousand soldiers and officers of the FPS are involved in resolving the "Chechen problem," with 266 pieces of armored equipment, 34 planes and helicopters, and 53 ships and patrol boats at their disposal.

From Moscow it may appear that there is Chechnya, there is Dagestan, Ingushetia, Ossetia and so forth. But in the Caucasus it is hard to distinguish where one begins and the other ends. In Russia we can alarm one another with the thought that the Chechen conflict may slip into neighboring regions. Stop worrying, essentially it has already reached them.

The Dagestan town of Kizilyurt is located around 50 kilometers east of the administrative border with Chechnya. It would seem to be the deep rear. Only not for the border guards who now must serve here. Their mission includes protection of the dams of the hydroelectric power plants, bridges, sea ports and airports, and other strategic installations. Subunits operate in "full" readiness mode. Road blocks are also set out on the main roads leading in the direction of Chechnya. A close watch has to be kept on them.

As was acknowledged to the SEGODNYA correspondent by the chief of the operations department of the Border Troops in Makhachkala, Maj-Gen Yevgeniy Bolkhovitin, up to now the border guards on the Chechen-Dagestan frontier have managed to find only a pair of "barrels," an automatic rifle and a pistol, plus some quantity of ammunition. Nor have there been any dead or wounded among the border guards in Dagestan. However this testifies more to the caution of the fighters, rather than to their weakness. Intelligence constantly reports observation of Chechens beyond the posts set up on the border, and that they are cautiously "probing" now one and now another sector of the defense. More than once, positions prepared by the fighters opposite the positions of Russian subunits have been detected. Available data lead one to fear that with development of a situation within Chechnya itself that is unfavorable for the Dudayev followers, an attempt will be made to break through the defense of Dagestan. Although as Mr. Bolkhovitin explains, "they likely won't take such a desperate step, since they know that we are ready to repel them, and they are trying the method of 'quiet infiltration.'"

All of this is occurring against a general background that is not all that favorable for the Border Troops. There has essentially never been a state border in Dagestan, so the men in green hats are viewed here as outsiders. There appearance in Dagestan was at first viewed especially negatively by the Lezgin ethnic movement "Sadval." As soon as relations appeared to have more or less stabilized, the Chechen events burst forth. "Since September the tension surrounding us has grown," confirms Maj-Gen Bolkhovitin.

Data indicating the fighters plan to carry out one action or another, in the words of Mr. Bolkhovitin, come in constantly. Up until now it has been possible to prevent them through the corresponding "preventive measures." However the fully dug-in border posts, bristling with barbed wire, remain in full combat readiness. Approaches to protected installations are mined. And those who risk appearing around the units from 1700 to 0700 hours can expect serious difficulties; they might be fired on. Without warning. So much for the "deep rear."

The current situation in the conflict area is such that the "border with Chechnya" runs everywhere here. Directly along the administrative border of insurgent Ichkeria. Along the sectors nearest to it of the state border of Russia with Georgia and Azerbaijan. Along the external frontiers of the CIS with Turkey and Iran. Along the Caspian and Black Seas. Along the air space of just about the entire Caucasus.

At this moment the sea border guards of the Caspian and Black Sea are conducting an operation to block the most likely routes of movement of weapons to the Dudayev regime by sea. According to intelligence calculations, this is the cheapest and most convenient variant of weapons delivery. "You must understand, it is simply impossible to set up frontier posts over the entire sea," an officer of the naval department of district troops, Captain 2nd Rank Vladimir Podobnyy lifts his hands in dismay. "But for weeks border patrols have been operating in the most 'weapons-endangered' axes, and have been inspecting all civilian vessels which appear in these waters. And border planes and helicopters patrol in the sky over the sea. So the monitoring is quite strict."

But then, as for the "sky borders," those who have the task of flying over the land sectors of "near-Chechnya" have it much worse than their naval colleagues. Quite recently two helicopters of the Border Troops executing a scheduled flyover of the administrative border with Chechnya in the Ingushetian sector were fired on from the Chechen town of Bamut, so accurately that one of them had to make a forced landing. Fortunately the crew survived. Nonetheless, firing on the "choppers" from the ground is not a rarity here. Even when approaching Chechnya from the direction of Dagestan (where it is still quieter than in Ingushetia), the pilot of our Mi-8 flew intricate turns. "To avoid excess unpleasantness," he explained later.

But perhaps the soldiers and officers of the Nazran border detachment on the ground, at posts "on the Ingushi sector of the administrative border with Chechnya" have it worst of all. And not only because they are fired on every night here (and sometimes every day), or that it was here that the separate border *komendatura* suffered its first dead and wounded. Three men, two officers and an NCO, died in the town of Assinovskaya, at the outskirts of which is the most "extreme" outpost, the most extended in the direction of Groznyy (from here to the Chechen capital it is 35-40 km). They suffered a terrible death, under torture. When their bodies were brought to the detachment, practically nothing human remained of them. An absurd death—on January 13 they were driving their vehicle to the nearest store for presents for the subunit for the old New Year. They even drove without weapons. And evidently they ran into a group of fighters. The first wounded were also here—two border guards combing the wood line set off a booby-trapped mine.

But the difficulty of service in this sector also lies in the fact that no one ever heard of the "administrative border with Chechnya on the Ingushetia side." When the Union was intact, there was a single Chechen-Ingushetia. After the breakup of the USSR and the formation of a separate Chechnya and Ingushetia, their leadership could not reach an agreement on where their borders lay. But then, it seems that Dudayev and Aushev were not especially concerned about it, at least before the start of the Chechen conflict. Now, however, the border guards sent out to these frontiers have found that they are essentially quite far inside Chechnya. With all the consequences arising from that. Incidentally, also associated with this confusion might be the reports that "Chechen fighters are concentrated on Ingushi territory" and even are building "defensive structures" there. Although for fairness' sake, it must be noted that recently the border guards have also been subjected to shelling on inarguably Ingushi territory, practically in the suburbs of the capital of Ingushetia, Nazran, close to the populated area of Barsuki.

So it turns out that during the day the residents of Assinovskaya gladly interact with the border guards, whose outpost is on the outskirts of the town. But at night . . . At night fire must be met with fire. "We cannot specifically determine who is attacking us," the chief of the outpost Col Sergey Zabusik was forced to admit. "They use the typical 'Mujaheddin tactics': hit and run, carry away the wounded and dead." In this regard, Zabusik's subordinates have had occasion to experience these same "Mujaheddin" tactics themselves. Their motorized maneuver group of the Novorossiysk border detachment, which now holds positions around Assinovskaya, had barely gotten back from a three-month "tour" on the Tajik-Afghan border. A few weeks at home, and again "mount up!": quick march to the Northern Caucasus.

The positions of the border guards in the Assinovskaya region are surrounded by continuous minefields. "You cannot imagine everything we've stuffed into the

ground," the youngish captain, chief of the outpost, shakes his head. It won't be possible to plow and plant here any time soon. Although for now there is no thought of that: the main mission is to hold the strategic road over which military columns move to Groznyy, and units released on leave return from Chechnya.

"The personnel of the Red-Banner Caucasian Special Border District have been assigned an important and noble mission—reliably protecting the administrative border of the Chechen Republic, resolutely stopping attempted breakthroughs by fighters and the transfer of weapons and ammunition, in order to keep the fire of the conflict from spreading throughout the Caucasian region, and to safeguard the security of people living along the line of the administrative border of the Chechen Republic." This quote is from the leaflet from the command of the border detachment appealing to the populace of the border regions of Ingushetia and Chechnya. Perhaps it may be formulated a bit bombastically, but in principle that is the way it is. Some might blame the border guards for the fact that their service is much easier than for those who are fighting right now in Groznyy: less blood, less fire. But each has different missions. And it would appear that the "green hats" are coping fully with theirs."

North Caucasus Officers Implicated in Tank Transfer Scandal

95UM0298B Moscow OBSHCHAYA GAZETA in Russian No 5/81, 2-8 Feb 95 p 1

[Article by Oleg Blotskiy: "Russian Tanks for Dudayev: Will the General Procuracy of the Russian Federation Continue To Pretend That It Does Not Know the Names of Those Who Delivered Armored Equipment to Chechnya?"]

[FBIS Translated Text] If you travel from Mozdok toward the city of Prokhladnyy, after 7 km you will come to Lesnaya Station. Among local residents, this area is better known as the "Arsenal," since a military unit is located here. Its complete name is the "Arsenal for Processing Ammunition and Explosives." Naturally, the territory is quite carefully guarded and has always had a special secrecy regime. However, since late October 1994, Army secrecy around the "Arsenal" has become unthinkably exaggerated. The following events took place under its veil.

By early November, 20 T-72 tanks were delivered to Mozdok Station from the Volgograd Army Corps, and the same number from the Krasnodar Corps. Organizationally, the corps were and are part of the North Caucasus Military District. The officers who arrived together with the tanks for their transfer were ordered "not to recognize" their bosses, who had flown in from Rostov-on-Don incognito. They remained "unrecognized:" Lieutenant-General Nedorezov, North Caucasus Military District deputy commander for armament, and Major-General Meluzov, chief of the district's Armored Service. The generals personally monitored the process of preparing the combat vehicles for transfer. To whom—the officers could only guess...

Of the 40 tanks which were in excellent technical condition and with a full basic load of ammunition (each with 44 rounds, 2 AKMS assault rifles, a pistol, 10 grenades), 12 were transferred to Avturkhanov's oppositionists. (It turns out that they do not fall under the definition of "illegal armed formations?" But you see, literally a month later, Russian troops would enter Chechnya namely for the purpose of disarming such formations!) The rest were accepted by tank crewmen who had arrived from Moscow. The same ones who soon were to drive the combat vehicles to Groznyy under the banner of the opposition.

To the bitter end, the officers did not suspect that they had been turned into mercenaries, ordinary mercenaries. Since as soon as they signed contracts with work associates of the FSK [Federal Counterintelligence Service], they were each handed 2 million rubles [R] and flew off to the North Caucasus (on temporary duty, they were assured), then and there they were automatically submitted for discharge from the Army by their command.

A total of 84 tank crewmen arrived at Lesnaya Station. The first batch of officers arrived on 8 November; two days later—30 soldiers. On 15 November—the next group of officers and soldiers. The geography of their previous service: Naro-Fominsk (Kantemirov Tank Division), and Alabino (Taman Motorized Rifle Division), Senezh ("Vystrel" Combined-Arms Courses with the center in the city of Solnechnogorsk). All these units are part of the Moscow Military District. The total number of soldiers and officers who arrived was 84. The soldiers, all as one, are dischargees whose term of service in the Russian Army has been completed. However, they all were not discharged into the reserve from their units. Like the officers, each immediately received R2 million. No differentiation in pay existed or in the future, apparently as proof of the well-known military postulate—the army is one family.

At first, the crews moved the tanks to the "Arsenal." There, at the dispositions of Military Unit 3187, on a small area 200 by 50 meters, they were guarded by the well-known "Vityaz" Detachment, ending up in a triple ring of soldiers of the Internal Troops. Remember, the "Arsenal" is subordinate to the Ministry of Defense.

The point is that the tanks were legally transferred to the Internal Troops of the Ministry of Internal Affairs [MVD]. Apparently, when preparing "the opposition's armored strike against Groznyy," it was planned to use the MVD as a mediator, which would stop excessive curiosity of Army members and preclude information leaks. However, despite the presence in Mozdok of Colonel Yarovyy, chief of the Armored Directorate of the MVD Internal Troops, the mediation did not take place. The tanks were transferred directly to tank

crewmen enlisted by the FSK and Avturkhanov's fighters, apparently pressed for time.

All this time, some Danila Ivanovich Ivanov, an FSK officer, was poking around the "Arsenal." (For some reason, at the "office" they still cannot put more heart into thinking up a fake name.) Someone named Lieutenant-General Zhukov is still permanently located there; to the tank crewmen he called himself nothing other than the "president's representative."

The mercenary tank crewmen received their baptism of fire near the village of Bratskoye, where three crews destroyed a self-propelled gun, two antiaircraft mounts, an armored personnel carrier, and a GAZ-66 with Dudayev infantrymen. Each of the tank crewmen received R10 million for this engagement. The money was given out by the same Danila Ivanovich, taking it from a briefcase with which he never parted. The small briefcase was packed with bundles of 50,000-ruble denominations. According to the officers' estimates, Ivanov constantly carried about a quarter billion rubles.

Next was the failed campaign on Groznyy, where about 30 tanks fell into Dudayev's hands. These tanks later fought very actively against Russian troops. Fairly often they could be seen under Chechen flags on television news items on the war.

Commentary on All-Army Officers' Conference

95UM0298A Moscow SOVETSKAYA ROSSIYA in Russian 21 Feb 95 pp 1-2

[Article by Zhanna Kasyanenko: "Khaki-Colored Hope"]

[FBIS Translated Text] The All-Army Officers' Assembly concluded its work last Sunday. Hope appeared that everything truly honest and patriotic that there is in Russia would gather together under the sovereign military banners. Attempts to do this have been undertaken repeatedly by many politicians, but so far they have been unsuccessful.

The assembly was representative. Delegates from 60 regions of Russia and the Soviet Union, regular officers of the active Army (more than one-third of the participants), representatives of 40 parties and public movements, Orthodox clergy, and deputies of the State Duma and Federal Assembly participated in it. The military and veterans were widely represented.

A result of the two days of work was the creation of the All-Russian Officers' Assembly as an organization uniting officers on the basis of tradition and history and on the idea of sovereign patriotism, which is recorded in the charter of this organization. The Central Council of the All-Russian Officers' Assembly was elected, which included representatives of all branches of troops, the fleets, socio-political organizations, and parties. General V. Achalov became chairman of the Central Council; Lieutenant Colonel S.Terekhov became deputy chairman.

Why did this unification become possible precisely now and precisely around the Army? Naturally, it is because many politicians see force as the only way capable of resolving the political, economic, military, and international crisis into which Russia's post-communist rulers have led it. Another question—do they want a resolution of the problem by force and how do they understand the force variant? And why today is the Army, which went for depoliticization with such ease, now uniting with politicians of a completely definite direction?

The path of force, in the way it is understood by the present leadership of Russia, was condemned by the participants in the Officers' Assembly and rejected as completely unacceptable. It constantly separates the Army and the people on different sides of the barricades created by this government and pushes toward a civil war. Use of force in resolving political contradictions in Russia has become the norm, and the scale of its use is constantly growing, from the momentum of peaceful demonstrations in 1992 to the shooting of the House of Soviets and the slaughter in Chechnya. The Army, as we see, is becoming an instrument of a completely specific policy—an anti-popular policy aimed at collapse and destruction, at discrediting the Army itself.

The officers speaking at the assembly said that they always were heirs to the traditions of Russian and Soviet officers. They remain so today. But whereas before they followed the will of politicians without fear and reproach, because previous politicians did everything for the sake of strengthening the might of the Army and the state, now the situation has radically changed. If, in the words of a Russian emperor, Russia always had two reliable friends—the Army and Navy, what have the rulers of Russia done with these friends of it today?

What is the condition of the Armed Forces of Russia?

The country actually lost the Black Sea Fleet. This essentially also means the loss of Russian land—the Crimea. There is every reason to assume that it will not feel Ukrainian very long, because Turkey is actively preparing for expansion in the Crimea.

The Baltic Fleet and Northern Fleet are barely capable of carrying out combat operations.

Today, the Ministry of Defense and General Staff are considering eliminating the Airborne Troops.

Of the 16 military districts that existed on the territory of the USSR, only 8 are left in Russia.

Many are counting on the Strategic Nuclear Forces. They exist for the time being, but their numbers are being seriously cut by the Strategic Offensive Arms Treaty-2 [START-2]. If it is fully implemented, the United States will have a 2:1 superiority over us, and Russia's security

will be irreparably damaged. The treaty, although not yet ratified by the State Duma, is nevertheless being actively implemented.

The Russian border is completely unprotected. Some 9,000 km of just the country's southern and western borders are not equipped with fortifications.

The Russian Ground Forces are only manned at half-strength. Due to the undermining of the prestige of military service, there has been a surge of young officers leaving the Army.

Russia's aviation strategic nuclear forces today number only 67 bombers, and in the next 10-15 years the country be in no position to re-create its strategic air forces even to the ceiling specified by START-2.

The complete collapse during peacetime of huge groupings of armed forces is unprecedented in world history. The destruction is taking place simultaneously with the destruction of the military-industrial complex, and the ability to create and restore armament is being lost for many years.

A question was posed at the officers' assembly: Is the power existing in Russia capable of doing something to correct the existing situation, and is it doing something for this?

Viktor Ilyukhin and Yevgeniy Loginov, deputies of the State Duma, proved convincingly in their speeches that the answer is no. Annually, the United States spends $260-280 billion for military purposes; France, Japan, and Germany spend from $40 to $45 billion each. In real terms, Russia spends no more than $7 billion. The situation is even worse in 1995. It is not even a question of new weapons, but how to feed the soldiers and sailors.

Our rulers, apparently, proceed from the concept that Russia no longer has any external enemies and that the only threat for the authorities is from their own people. That is why they are actively strengthening the Internal Troops and various special-purpose detachments. Today, Russia's Internal Troops have a personnel strength that exceeds that of the Internal Troops of the USSR, are close in composition to the armed forces, and are equipped with the most modern army weapons, and the Ministry of Internal Affairs is creating its own combat aviation. The Main Administration of Security and the President's Security Service are in a specially privileged status.

The humiliated, disastrous position in which Russia's Armed Forces have ended up and the slander and persecution of them by various civil rights activists and the press could not help but affect the morale of the military.

The basis of the victories of the Russian and Soviet Army was always its morale and fighting spirit, based on the idea of protecting national and state interests, the idea of which was used by Ivan the Terrible, Peter I, Catherine II, and Stalin to strengthen and expand the boundaries of power. They destroyed the spirit of patriotism—power collapsed, and the army is being destroyed.

The data of military politologists and psychologists indicate that 50 percent of officer personnel perform only a minimum of their official duties, and 70 percent of the subunits have unsatisfactory indicators for the state of military discipline. Despite the fact that the majority of officers consider moral reference points to be duty, honor, and responsibility, 92 percent of the officers are thinking about their future outside of the Army because of the lack of prospects in the service, the unsettled state of daily life, and a worsening of their material situation.

In the Army, the mechanisms of social influence have weakened, and the officers' assemblies have actually ceased to operate.

In the last three years, nothing has been done to create a mechanism of maintaining discipline.

Such a situation is only the consequence of that state in which all our society is located. And what has been done with the Army and Navy—Russia's only friends—is natural.

The war in Chechnya is the logical consequence of the course being pursued by the current government that is disastrous for the Army and the state. The roots of the Chechen war are in Moscow. However, to tolerate a second army and the powerful criminal clan of Dudayev means to admit to the collapse of Russian statehood. Officers and soldiers cannot allow themselves to do this, no matter how much they would like to do this like those who call themselves civil rights activists and speak out against the Army. The entire world is surprised: the state is on the brink of disaster, but Russian soldiers and officers have remained loyal to duty.

In these conditions, the Army, rejecting dirty politicians who use it as an instrument in their own game, is becoming a political force itself. The path of force today, as the participants of the All-Army Officers' Assembly see it, lies not in pointing the cannon muzzles from Groznyy to the Kremlin, but in having the Army and Navy serve the homeland. To do this, it is necessary to bring to power by legal means those people who will change the existing disastrous course. The path of force lies in influencing the politics of the state through its informal Army leaders expressing common moods.

It was striking that there were many people at the meeting in civilian clothes, but with the bearing of an officer. These were active-duty officers who were forbidden by the minister to participate in the assembly under the pretext that it was being used by some politicians for selfish purposes. Who was it that Grachev was accusing of self-interest? Terekhov? Makashov? Achalov? Their fellow officers, betrayed and shot at by him at the House of Soviets and in Chechnya, thrown

out of Europe into an empty field without apartments and without a regular salary, who amassed nothing in the Army except wounds and heart attacks, are being accused by him (!) of self-interest!

But in the end, I will return to the beginning. The meeting began unexpectedly, almost scandalously. Either by mistake or for an incomprehensible purpose, the new Russian anthem was played at the ceremonial opening. They listened in silence to the complicated and meek music of Glinka. Suddenly, somewhere in the center of the hall the other expected and desired melody began to be heard, softly at first, and then increasingly louder and confident, from hundreds of hearts: "Glory to our free homeland..." Perhaps this is indeed the beginning?

Whom Are You Officers Protecting?

[Vladimir Potishnyy, a miner from Vorkuta] As a representative of the working class, I want to ask you: Whom are you officers protecting? I will tell you that you have admitted, in addition to the nomenklatura we already have, exploiters from the United States and all other areas abroad. Now they are trying to put the blame on the miners.

I was in the workers' movement for five years and am chairman of a society of disabled miners and families of those who perished. There are 2,813 disabled miners and 320 families of those who perished. For four months they have not received payments due them. The widows accompanying me here asked me to tell you officers, our protectors, how the working people are living.

Let us talk about fairness. This person, whom I do not even want to name, after leaving the "Yuzhnaya" Mine, knocked his helmet and shouted: "Would you pay people for such work? What riffraff!" And we never saw him again. The fact that miners supported Yeltsin—that is a propaganda gimmick. Look at his election poster where it is written that the miners support Yeltsin. They are fishermen in the photograph! It was deception from the very start. These are bought mine leaders who supported him. These are those who traveled to America seven or eight times. They now live in Moscow. The fools, they could have an excellent country. But they will not be able to live here, because the country where everyone is stealing, it makes no sense to steal: There is no place to put what is stolen!

Today we must rely on the workers... The general should say: I am a warrior. I am able and know how to save Russia. He should drop his membership in any party. There should be only one party today—Salvation of Russia. If you say this, all working people will support you—the miners, the steelworkers, the plowmen, and not only those who show off at rallies under various banners. The real Russia is in the mines, at the machine tools, and in the fields. These democrat fellows have a clear program for its death, and they are implementing it. Here it is, this program, I have it in my hands. It is written by the World Bank.

Their scenario for 1997 is: the Pechora North, that is us, Vorkuta, and Inta. A straight line here: for 1992 the number of mines was 18; direct employment—70,000 people. In 1997, they have planned to have five mines with direct employment of 21,000 people. I visited our "general" today—the general director of "Rosugol." He is operating under this program. He says to me: "What are you miners demanding for yourselves? Here it is, coal from Indonesia. And in your place—Chinese. They will work for half of what you demand. Who needs you?"

That is what the life of a miner is like today.

Guys! My disabled miners catastrophically do not have enough money even for medicine. Even the healthy ones are turning to drink out of grief and hopelessness, and the children are growing like weeds.

Guys! Our children are in your ranks today because only the workers and peasants cannot "pay bribes" to keep their children out of the service. This is a workers' and peasants' army. You are to blame for the fact that it has been spit on and trampled on; you are responsible for our children. You sat at the headquarters; this was your intelligence that knew and saw everything, but you did nothing... What, am I, a miner, supposed to raise the banner now and take the cities? I will go! You only have to give me the order.

MILITARY POLICY

CINC Yeltsin 'Responsible for Chechnya, Army Reform'

95UM0325A Moscow SEGODNYA in Russian No 33, 17 Feb 95 p 2

[Article by Pavel Felgengauer: "The Events in Chechnya Are Like a 'Drop of Water': The President Promises That the Army Will Be Combat-Effective, Small, Manned, and Modern"]

[FBIS Translated Text] In a message to the parliament, President Yeltsin and his advisers and assistants quite adequately assessed the military-political situation in Chechnya. An "armed rebellion" indeed has taken place there, and a seat of separatism has formed on the sovereign territory of Russia, which could turn into a hotbed of a big Caucasus war. Using force to solve the Chechen problem in the end was virtually inevitable; however, it is perfectly obvious that the operation in December and January was executed by the most ridiculous and bloody method. Boris Yeltsin is quite right—"all the problems of modern Russia were reflected like a drop of water in the recent events in Chechnya."

The Army, Internal Troops, Border Guards, FSK [Federal Counterintelligence Service], MChS [Ministry for Emergency Situations], OMON [Militia spetsnaz detachments], SOBR and other small armed formations and private armies which unusually grew in size during the years President Yeltsin has been in office "interacted

extremely ineffectively" in the first stages of the operation in Chechnya and, it seems, continue to interact poorly now. The real combat-effectiveness of the Russian troops has turned out to be not too high, and many generals in practice have proved their professional incompetence.

"The dignity of Russians, their patriotic and civic feelings" have suffered a "painful blow" as a result of all this. Today, none of the country's residents can be completely sure that the state is in a position to protect its citizens without having destroyed their homes and property by indiscriminate bombing during the course of performing this noble mission.

It is quite obvious that "reform of the Armed Forces is proceeding unsatisfactorily." That is why the president's intention "in 1995 to take decisive measures to reorganize the armed forces and other troops taking into account the real problems of safeguarding Russia's national security and the country's economic and demographic capabilities, increase their technical equipment, improve support, and bring operational and combat training to the level of modern requirements" is commendable.

Now, after Chechnya, it has finally become self-evident that during the last three and a half years of Boris Yeltsin's rule, the Army was not being reformed so much as it was being slowly destroyed. But actual military reform which will be able to increase the Army's combat effectiveness in a short space of time will require a sharp increase in real military spending, and not just the dismissal of some or other general. This means that money will have to be taken away from someone. Somehow, I cannot believe that on the threshold of elections, the President and parliament will turn out to actually be ready for such unpopular measures. In addition, it is not quite understood if the president plans actually to concentrate the country's limited resources on increasing the combat effectiveness of the Russian Army, or if resources will again be senselessly dispersed to reinforcing "other troops"—the Ministry of Internal Affairs Internal Troops, MChS, Border Guards, and so forth.

Boris Yeltsin has been the Supreme Commander in Chief for more than three years now, and he is the one who has the main responsibility for what has happened in Chechnya and for the fact that "the state was not prepared for effective actions using force." Yesterday, the President promised that "implementation of the planned measures in the area of defense will become the basis for creating a highly combat-effective Army of the Russian Federation—relatively small, sufficiently manned, and equipped with modern armament." There is no doubt that our President, his assistants, the administration, and the government would like to see the Army strong and rich, not poor and sick as it is now. The Kremlin always wants it to be the best possible.

(Also read the viewpoint of the regular military on problems of reforming the Army on page 9).

Defense Ministry Reduction of Career Officers Questioned

95UM0307A Moscow SEGODNYA in Russian 24 Feb 95 p 6

[Article by Aleksey Malinskiy: "Selfishness in the Military Way: the Problem Is National but the Approach Is Departmental"]

[FBIS Translated Text] It would seem that everything is simple: if the Armed Forces of Russia are reduced because of certain reasons, then it would seem that a very natural task arises for the Ministry of Defense: retain the necessary number of specialists for further service, dismiss those officers who have served their set time to the reserves with some nice parting words, and try to find employment or a place in other ministries and departments for the rest who do not fit into the existing organizational and personnel structure.

At first that is how it was. In the so-called transition period approved by the President of Russia, there was a mutually coordinated transfer of military personnel. In the last two years, for example, 3,157 servicemen were enlisted in the Border Troops of the Russian Federation in connection with the formation of the Federal Border Service of Russia and a significantly expanded range of its tasks. And of them, 104 officers came from the Armed Forces of the Russian Federation in 1993 and 1,590 officers came in 1994. At the present time, the Main Personnel Directorate of the Ministry of Defense has three draft orders of the Minister of Defense for sending a total of 190 officers for further service in the Border Troops of the Russian Federation. I will note that the absolute majority of them were warned by their immediate superiors that their billets had been cut or that cuts were planned in the near future. It would appear that a decision had to be made without further delay. But this was not it.

As V. Kovalenko, deputy chief of the Center for the Social-Personnel Adaptation of the Border Troops of the Russian Federation, said, the first draft order of the Minister of Defense on the transfer of officers to the Border Troops has been awaiting its hour since 19 December 1994. "We are preparing still another draft order on the transfer of 64 officers to the Federal Border Service of Russia but we are somewhat perplexed in connection with the recent directive from Chief of General Staff Col-Gen M. Kolesnikov. The process of the sensible placement of officer personnel being released from the Armed Forces of the Russian Federation was actually threatened."

The rumors about a certain "obstacle" to the transfer of army officers that had the troops excited turned out to be well founded. And soon after the action by the Main Personnel Directorate of the Ministry of Defense of the Russian Federation that was "troubled" by the dramatic outflow of military specialists came the directive from the chief of General Staff. It is entirely convincing at first

glance. Here there is a reference to the Law of the Russian Federation "On the Military Service Obligation and Military Service" and a zealous striving to carry out Order No 404 of the minister of defense of Russia "On the Procedures for Making Contracts and Dismissing Service Personnel from the Armed Forces of the Russian Federation." In short, there is nothing that one can say. Still, let us try to delve a little more deeply into the essence of the directive.

Thus, throughout 1994 the personnel departments of the Ministry of Defense performed a colossal amount of work, the essence of which was to select the best of the best officers and to make contracts with them and to dismiss the rest in a systematic way. In general, this is how it was. The problem lies elsewhere—many officers did not have a sense of calm even after they signed contracts. And this is natural. It is possible to present many examples in which officers who had signed contracts were suddenly invited to the personnel department, where they were given the traditional words: "Look here, brother, we sympathize with you but we have orders from above.... In short, your position is being cut, look for a job in civilian life."

I repeat, since there were more than enough cases like this, officers faced the choice: either continue to serve and meekly accept their fate or look for a "reserve air field." Many, as practical experience shows, preferred the latter, evoking the "just anger" of the Main Personnel Directorate. How could one influence the situation? It was then that the "law-abiding" fanatacism of the above-mentioned department flashed (excuse me for my frankness!). I quote Point 3 of the directive of the Chief of the General Staff from 30 September 1994: "Service personnel...who have not signed contracts on the performance of military service within the set time will be discharged from military service within the next three months in connection with the failure to sign a contract (Part 5 of Article 60 of the law) in the absence of other bases for discharge. They will not be discharged at their own will (second paragraph of the third part of Article 57 of the law) after 1 January 1995. But this punishment is only for the "stubborn,' those who did not want to sign the essentially enslaving conditions of the contract. (Enslaving because the officer entered into quite specific obligations at the same time that the obligations of the other side were "nebulous" and formulated in the most general terms). But what should be done with those who did sign a contract but on account of the circumstances were among those whose positions are being cut?

It would seem that this category of persons needs special attention and support. At least any personnel chief would be pleased to have them transferred to another department and would see it as a gift of fate. But this is not the way that it is. I quote the second paragraph of Point 5 of the directive: "Under the law, a serviceman signing a contract on military service with the Ministry of Defense cannot be sent to another ministry, department, body of state authority and administration, or armed forces of another state without the early invalidation of his contract and his discharge from military service."

An so that there will be less freethinking, the Ministry of Defense prepared a very perceptible sanction for those who do not agree: "Such service personnel will be discharged upon a formal request and the authorization of the certification board with the wording 'For the serviceman's nonperformance of the conditions of the contract' (point "c" of the second part of Article 49 of the law)...."

What does this mean, let us say, from a financial point of view? This is what it means. If a serviceman is discharged "for the good," that is, upon reaching the age limit, for health reasons (found by the military commissariat to be unfit or having limited fitness for military service), or in connection with organizational and staff measures, then with a service time of 20 calendar years or more he will receive an allowance of 20 (!) salaries. Depending on the rank and last position held, the payment will amount to 6 to 10 million rubles. In addition to this, service personnel who have been decorated will receive an additional two salaries. A substantial sum!

In our case, when the serviceman is discharged with the wording "not having fulfilled the conditions of the contract," he is not paid any allowance.

By the way, to have the possibility of continuing their military service, many officers are prepared even to accept these conditions, bearing enormous financial outlays for their meager family budget. They are willing to go serve, let us say, in the border troops of the Russian Federation, taking the extreme measure of discharge from the armed forces. But it is more than this. There is still another "underwater mine" that they prefer not to talk a lot about in the Main Personnel Directorate of the Ministry of Defense. It is a matter of Article 30 of the Law of the Russian Federation "On the Military Service Obligation and Military Service," which stipulates that a citizen of Russian 18 to 40 years of age may be accepted for military service under contract. Stop! The absolute majority of the officers who are striving to be transferred are lieutenant colonels and colonels who have already exceeded the limit of 40 years of age. So it turns out that through official transfer from one department to another, without interrupting their service, they could continue to serve, benefiting the Fatherland. After being discharged to the reserves, their path to service is closed forever. What awaits them after that? Initially unemployment—they must get used to the reality of their new civilian life. But then what? Put on camouflage and go guard the garages of the "new Russians"?

Of course all of this is immoral, to put it extremely mildly. But is this immorality not gradually becoming the norm in our lives? There are now many officers being discharged to the reserves who have served in Afghanistan and who have quite fresh recollections of "hot

spots," where they served as living shields to separate conflicting sides. Who remembers this today? So it happens that "gentlemen" officers are being discharged who sometimes do not have either house or home. All they have is knowledge, a pair of strong arms, and the desire still remaining in the recesses of their heart to serve Russia.

Will all of this be called on in the near future? Will it be possible to correct the mistake in time?

P.S. While this material was being prepared for printing, it became known that Lt-Gen A. Tymko, chief of the General Staff of the Border Troops of the Russian Federation sent a letter to Col-Gen M. Kolesnikov, chief of the General Staff of the Armed Forces of the Russian Federation, in which he requested that they not hinder the sending of 190 officers to the Federal Border Service of Russia, officers whose candidacy had been processed in the fourth quarter of 1994 and coordinated at all levels right up to the command of the service branches.

It was also requested that they authorize the study and subsequent sending of officers to the Federal Border Service of Russia who are just one year away from reaching the age limit and hence the expiration of their contract and also officers who are being released in the disbanding and reduction of units and combined units that cannot be placed in the system of the Ministry of Defense. Lt-Gen A. Tymko expressed the wish not to invalidate ahead of time the contracts with the above-mentioned category of officers (those desiring to continue service in the border troops of the Russian Federation) and not to discharge them from military service.

An official response was received a few days ago. They have refused to transfer army officers to the Border Troops. Because of the exceptional importance of the matter, it is expected that Col-Gen A. Nikolayev, director of the Federal Border Service, will present it for discussion at the next meeting of the Security Council of Russia.

Minimum Raise Increase Said To Harm Servicemen

95UM0281A Moscow KRASNAYA ZVEZDA in Russian 17 Feb 95 p 1

[Article by Ivan Kvanyuk: "Put in One Pocket, Taken Out of the Other: One More Attempt To Save Money on Servicemen"]

[FBIS Translated Text] As is well-known, the State Duma and the Council of the Federation recently approved a draft Law on Raising the Minimum Wage. Starting on 1 February of this year, the rate was raised to 54,100 rubles [R] a month. This coincided in time with the raising of the minimum hourly wage in the United States to 4.25 dollars, which under the official exchange rate is roughly R18,000. Our lawmakers thereby made a seemingly desperate attempt to equate a month of persistent work by a Russian citizen not to 1 hour of work by an American, as it would be if the previous minimum wage level were preserved, but to at least 3 hours.

This decision caused a storm of indignation in the camp of supporters of financial stabilization at any price. They announced that inflation would rise sharply as a result of this. As if it would not rise like yeast anyway, relegating more and more strata of the population to the edge of poverty. There were, incidentally, more concrete comments such as: this kind of indexing brings some people millions and others a few kopecks.

It is a strange thing, but the critics of the draft law, for the most part important government officials, "did not notice" that both money savings and a differentiated approach are included here. And the parliamentarians have not begun to play their "trump cards" publicly. Why? the question arises. The answer to this question is clear right after one studies the text of the Law on Raising the Minimum Wage. Things that might be extremely unpopular are not advertised.

And it is immediately striking that the text of the law is short and does not contain details. At the same time, however, almost a quarter of the text is taken up by the article numbered 5, which suggests that the government make the decision to index salaries of people in uniform. And then, from the actual text: "... the amount of indexing of the pay of military servicemen and rank and file members and officers of the internal affairs organs is reduced by the amount of the centralized increase after 1 July 1994 before the present minimum amount of labor payment was introduced."

If this casuistry is translated into normal language, it means that since starting on 1 January 1995, supplements were established for earnings in the army and navy, there is no reason to index the actual pay of servicemen as is done for everyone. It turns out that for the umpteenth time, they have found only a single source of savings which is in fact supposed to bloc' inflation—servicemen's pay. We managed to find o' that on the sly, the Ministry of Finance has already p epared a plan for indexing the salaries of employees of the budget sphere. Not by 2.5 times, of course, but by 1.3 times, and not starting on 1 February but on 1 March. But for servicemen who got a 25 percent supplement as of 1 January, the supplement is supposed to be included in the calculation... of this 30 percent.

But decisions which contradict the Law on the Status of Servicemen which has already been adopted are being put through by these same lawmakers. And this is done secretly, on the sly, as if counting on the officer or warrant officer failing to notice how they managed to put something in one of his pockets and then try to take the same amount out of the other...

Either it never occurred to the parliamentarians who voted for this draft law, or they are pretending to be ignorant of the fact that the pay supplements for cadre servicemen were very late in coming in order to at least

somewhat regulate military labor payment in all the power structures. And in the army and navy, the pension supplement which has been in effect, for example, in the FSK [Federal Counterintelligence Service] or the Border Troops for more than half a year has not even been legalized since 1 January. And up to this point, no one has even received the full supplements which were finally introduced in the Armed Forces; there is no money for it.

As is obvious, the very possibility of complying with the principle of social justice in military labor payment in various departments makes some people in the State Duma and the Council of the Federation uneasy. I would like to stir up passions in the army milieu a little more. But they will be white hot again if the parliamentarians do not revise their decision or the president does not intervene, since the power structures where the supplements were introduced before 1 July 1994 will again find themselves in special circumstances, and the material status of officers and warrant officers in the Armed Forces will be even more pitiful. Let us remind you that the pay rate of an officer, the platoon leader who makes everything happen, is at present R136,000—it would be difficult to imagine less.

In conclusion one more unpleasant consideration comes to mind. The decision to introduce supplements to servicemen's pay was made on the eve of the operation in Chechnya. Now that the army has largely accomplished its mission, will it find itself once again unneeded by anyone? Is it possible that our politicians are acting on the basis of this blasphemous logic?

STRATEGIC DETERRENT FORCES

Navy Response to Arbatov on Value of Sea-Based Nuclear Forces

95UM0330A Moscow NEZAVISIMAYA GAZETA in Russian 3 Mar 95 p 3

[Article by Anatoliy Zapolskiy, retired Captain 2nd Rank, Vladimir Levashov, Captain 1st Rank (reserve) and candidate of technical sciences, Valentin Rykov, Captain 1st Rank (retired) and former nuclear submarine commander and, Gennadiy Khoroshilov, Captain 1st Rank (reserve) and candidate of military sciences, under the rubric: "Wars and Army": "A Problem of Paramount State Importance: The RF Must Have Sea-Based Strategic Nuclear Forces"]

[FBIS Translated Text] *Anatoliy Zapolskiy is a retired Captain 2nd Rank who participated in the development and testing of nuclear submarines for 20 years.*

Vladimir Levashov is a captain 1st rank (reserve) and candidate of technical sciences.

Valentin Rykov is a captain 1st rank (retired) and former nuclear submarine commander.

Gennadiy Khoroshilov is a captain 1st rank (reserve) and candidate of military sciences.

Resonance

Aleksey Arbatov's article "Yadernyye sily: strategiya, dostatochnost, sostav" [Nuclear Forces: Strategy, Sufficiency, and Composition] was published in the December 8, 1994 edition of NEZAVISIMAYA GAZETA.

I note with satisfaction that the deputy of the State Duma and member of the Committee on Defense is interested in this problem of paramount state importance. The problem is not only very complex but also quite delicate for discussion in the open press. Without question, the author of this article knows that.

Nevertheless, without taking into account domestic or foreign experience, he boldly assigns priorities in the development of: first, strategic nuclear forces with land-based intercontinental ballistic missiles (ICBMs) and then "all of the rest: sea-based strategic nuclear forces—secondary support of land-based missile forces" and further the "insignificant component of the strategic nuclear forces"—strategic aviation.

He substantiates his vision of Russia's strategic policy and all of its military policy primarily on the unprecedented financial-economic crisis and the failures of military reform.

Since the average reader is not determining what kind of armed forces we must have and build in the future based upon levels and composition, what strategy to subordinate them to and how it will be with strategic offensive arms reduction treaties, we consider ourselves to not only have the right but also the obligation to express our opinions only on the author's individual, in our view, most incorrect arguments.

Historical military experience, including world military experience, is evidence that under no circumstances is it permissible to idealize some or other type of weapon or, accordingly, branch of the armed forces or to underestimate the other types of weapons, all the more so those that ensure strategic parity. In A. Arbatov's arguments, both on the composition of the nuclear strategic forces and also the assessment of their combat qualities, when he characterizes the land-based strategic nuclear forces everything is "ideal" and the advantages are mainly visible to him.

But in the process, why does he underestimate the sea-based strategic nuclear forces?

It is known that these are two strategic nuclear forces components that complement each other, each of which has its advantages and shortcomings.

The following "everyday" questions can arise even for an uninitiated reader who has attentively read A. Arbatov's article:

—Is a missile with a nuclear warhead that has been buried near our home and an enemy missile that has at the same time been targeted on it and on our home better for us than a missile on a submarine in the ocean?

—Is a missile train in the forest that can be detected by any mushroom picker more concealed than a submarine at sea?

—Naval bases—these are not Russia's own territory and do the other branches of the Armed Forces, besides the appropriate fleet's special forces, defend them?

—Are enemy saboteurs and assault troops so unilaterally prepared that they are capable of putting out of commission only missile submarines at bases yet incapable of incapacitating SMF [Strategic Missile Forces] fixed silos and mobile launchers?

The illogic noted above was also substantiation for A. Arbatov to arrive at a conclusion on the "priority of the land-based missile forces," and therefore, he thinks, "it is advisable to concentrate the limited available resources on... the deployment of mobile ICBMs in the next few years".

As for the sea-based missile forces, "security interests require an optimal course of their maintenance and improvement in the remote future".

A. Arbatov's proposal to significantly restrict financing of the naval component, in comparison to land-based systems, not only this year but also in the next decade inevitably results in the loss of our scientific and production potential in this sphere and the practical impossibility of restoring the naval component of the strategic nuclear forces at the required level in the future. Without stable financing of the sea-based strategic nuclear forces, the introduction into the Navy "of new missile submarines with new SLBMs in the second half of the next decade" is impossible.

That statement inevitably leads to the disappearance of sea-based strategic nuclear forces and the loss of the capability to achieve parity with the United States on the most highly mobile and concealed sea-based missile systems.

Maybe the reader will be fascinated by the idea of "following our own path"? The reader does not know that a special significance is being imparted to the naval component of strategic arms in the geopolitical situation that is taking shape.

Sea-based strategic nuclear forces as part of the triad have a number of fundamental distinguishing features and they are:

—they permit the diversion of the maximum possible nuclear missile potential from our territory and thereby prevent a possible enemy nuclear missile attack against our country with the goal of destroying land-based missile silos;

—strategic missile submarines have the greatest mobility thanks to high maneuverability and the possibility to change protected combat patrol areas in a concealed manner which provides them high resistance to the enemy and survivability;

—sea-based missiles can be dispersed throughout all of the water areas of a majority of the seas and oceans, including the Arctic, which provides the possibility to inflict an inevitable retaliatory strike from an underwater or under-ice position from any needed directions that are unknown to the enemy and at intercontinental firing range.

This has long been an axiom for other nuclear powers.

Today it is intolerable to build a strategic potential and to ensure the country's security through a monopoly on land-based component of the strategic nuclear forces alone, as A. Arbatov suggests. It has already lost a round, having been deprived of multiple reentry vehicles, and it could be banned in general in the second round.

What kind of strategic parity is this a question of and what kind of strategic weapons will Russia have left if it has to continue to reduce its land-based component based upon the U.S. proposal and we ourselves unilaterally eliminate the sea-based component—based upon A. Arbatov's advice?

In conclusion, we would like to express the hope that the needs of Russia's strategic nuclear forces, including the sea-based strategic nuclear forces, will be painstakingly balanced and taken into account in the state budget based upon a much more thorough and professional analysis of this problem than was done in A. Arbatov's article.

We must not permit errors in the selection of Russia's strategic policy because no less than half a century and gigantic economic resources will be required to eliminate them!

GROUND TROOPS

Army Aviation in Modern Battle

95UM0227C Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, 1994 (signed to press 8 Dec 94) pp 14-17

[Article by Lieutenant Colonel Ye. Matveyev under rubric "Ground Troops"]

[FBIS Translated Text] The importance of army aviation in modern battle is growing constantly. Its use permits increasing the firepower and mobility of ground formations and units, reducing their dependence on the nature of terrain and performing a number of other missions, the main ones of which are considered to be fighting enemy tanks and other armored vehicles, fire support of friendly troops and support of assault forces. An important role is played here by close interaction with tactical

aviation and other arms of the ground troops, as well as by the level of training of army aviation flight personnel in conducting combat operations day and night in any weather conditions and on any terrain.

Army aviation is an independent arm of troops and is intended for supporting successful combat operations of combined arms formations and units. The U.S. FM 100-5 Field Service Regulations note that firepower and high mobility of army aviation forces and assets contribute to rapid closing with and defeat of enemy troops.

The main western countries presently have developed and are applying in practice the principles of employing army aviation, which are as follows: maintaining constant combat readiness, conducting operations as part of combined arms task forces, concentrating efforts on performing the most important missions, ensuring surprise and the massing of forces and assets on main axes, combining fire and maneuver in delivering strikes against the enemy, ensuring survivability through use of protective equipment and terrain features, and the possibility of conducting lengthy combat operations.

Based on these principles, army aviation performs reconnaissance, fire, assault transport, and special missions. The first group of missions includes reconnaissance of a combat operations area, radiation (chemical and bacteriological) reconnaissance of terrain, and engineer and weather reconnaissance. Operating independently or together with ground units and subunits, helicopter reconnaissance groups collect important information on enemy forces and assets on the battlefield (Fig. 1 [figure not reproduced]).

Fire missions are the destruction or suppression of enemy ground (chiefly armored) targets and support to the transit and operations of tactical assault forces. Combat (attack) helicopters are used to fight enemy combat helicopters and raiding and reconnaissance parties. They may accompany mechanized and tank columns and reconnaissance and assault transport helicopters, cover flanks and rear, support the disengagement (withdrawal) of friendly troops and so on. Regulations and manuals of armed forces of NATO countries emphasize that attack helicopters are irreplaceable in a situation demanding quick reaction. They are used effectively where terrain conditions limit or preclude the use of ground subunits. When combined arms units and formations have been drawn into battle or an engagement, attack helicopter units can help attain decisive success.

Helicopters armed with ATGM's are capable of destroying enemy armored subunits and units independently or together with tactical aviation. For example, in one sortie a battalion of AH-64 Apache helicopters (Fig. 2 [figure not reproduced]) can destroy up to 300 pieces of armored equipment with an effectiveness factor of 0.9 (under ideal conditions, including with reliable suppression of air defense), or around 100 with a factor of 0.25-0.3.

Army aviation assault transport missions consist of airlifting tactical assault forces, troops and supplies and evacuating the wounded. Multipurpose and assault transport helicopters support the battlefield maneuver of forces and assets, land tactical assault forces (Fig. 3 [figure not reproduced]) and take part in air assault operations. They also quickly move towed field artillery pieces, other weapons, military equipment and various logistic supply items (Fig. 4 [figure not reproduced]).

Experience has shown that compared with the Army 2.5 ton vehicle, the UH-60 Black Hawk helicopter has twice the capabilities for transporting personnel and 1.5 times the capabilities for transporting cargoes. The cruising speed of helicopters is 200 km/hr, while that of a motor vehicle (depending on terrain) is not over 40 km/hr.

Special missions include emplacing and clearing minefields, supporting command and control and communications, spotting field artillery fire and tactical air strikes, security and defense of formation and unit rear areas, and electronic suppression of the enemy.

The armed conflict in the Persian Gulf (1990-1991) demonstrated rather fully the increased role of army aviation, above all of various helicopters, in modern battle. The multinational forces [MNF] land grouping was saturated with army aviation, especially antitank helicopters. Over 1,600 helicopters, including around 900 ATGM-armed combat helicopters, took part in combat operations against Iraq. Up to 80 percent of all missions were flown in support of allied ground troops. During the conflict the MNF command element resolved questions of expanding the sphere of employment of various kinds of helicopters and developing new and upgrading old methods of combat operations.

In the course of the allied offensive air operation, AH-64 Apache antitank helicopters were used for the first time in the air defense penetration element. Back before combat operations began, they destroyed two early-warning radars at night in western Iraq. Over 100 U.S. Air Force attack aircraft passed through the corridor which had been created in the direction of Baghdad. Apache helicopters operated in two groups of four helicopters each (covered by UH-60 helicopters). The crews used night vision devices and thermal-imaging weapon aiming and navigation systems. Helicopter tactical groups from corps and division army aviation brigades moved forward covertly at low and extremely low altitude to Iraqi troop strongpoints and struck tanks, fighting vehicles and antitank weapons with the fire of onboard weapons. In a number of cases such missions were performed together with A-10 attack aircraft equipped with Maverick guided missiles and free-flight rockets. The attack aircraft and the antitank and reconnaissance helicopters supplemented each other's actions, which ensured high effectiveness in engaging enemy armored targets.

Army aviation accomplished around-the-clock reconnaissance of enemy territory to uncover the Iraqi troop

defense alignment and system of fire along the border of Iraq and Kuwait with Saudi Arabia.

In the course of the ground offensive operation, main efforts of army aviation were aimed at close air support of attacking troops. Combat helicopters above all destroyed armored equipment in the Iraqi troops' first defense zone. It was proposed to use up to 300 helicopters of various kinds to support the planned landing of an amphibious assault force 70 km north of the Saudi-Kuwaiti border.

New systems which had not yet become operational were tested in conducting Operation Desert Storm: for reconnaissance, navigation, monitoring combat operations, and ground target acquisition with real-time transmission of coordinates for aircraft weapons. As a rule, ground troops worked closely together with army and tactical aviation. The presence of a large number of helicopters and attack aircraft employing precision munitions increased the effectiveness of ground operations. Army aviation subunits performed combat missions together with field artillery and armored cavalry regiments.

Helicopter detachments consisting of from an antitank helicopter company to a battalion provided considerable assistance to attacking troops. Operating in front and on the flanks of friendly troops in the absence of opposition on the part of Iraqi air defense weapons, they reconnoitered the enemy in corps and division zones of advance, transmitted collected data in real time, and delivered surprise attacks on Iraqi Army tank and mechanized columns together with tactical and deck-based aircraft.

Employment of combat helicopters in small groups (up to ten) together with A-10 attack aircraft or in large groups (30-35) accompanied by reconnaissance helicopters was considered the most advisable and effective. Suffice it to say that in one sortie two composite aircraft-helicopter groups totally destroyed a column of 24 tanks and APC's.

The first method envisaged delivering strikes against the most important targets immediately following strikes by A-10 attack aircraft. This permitted helicopter crews to identify targets that had not been destroyed and deliver a strike against them. Guaranteed destruction of targets as a whole was achieved through the efforts of composite groups. The inclusion of two A-10 attack aircraft and around 10 AH-64 Apache fire support helicopters in the group was considered to be the most advisable.

The second method envisaged use of combat helicopters together with light reconnaissance helicopters, which would use laser rangefinders to illuminate targets for missile guidance, including in hours of darkness. This permitted launching missiles at a distance of up to 6-7 km from targets while outside the reach of short-range tactical air defense weapons.

Of the MNF army aviation combat helicopters which took part in combat operations, the U.S. AH-64 Apache gave the best account of itself. The flight and navigational system, which supported its use under those weather conditions where all allied army aviation remained on the ground, received especially high evaluation. In the opinion of western military specialists, the range of missions performed by these helicopters can be expanded considerably.

In analyzing army aviation operations in the Persian Gulf conflict, foreign experts note that high effectiveness of Apache helicopters also was ensured through a number of measures, which included bringing staffs of servicing personnel up to strength with all necessary specialists, establishing a spare parts reserve, and forming an auxiliary team of army and industrial representatives at the manufacturing plant for prompt resolution of operating problems. The level of combat readiness of the AH-64 Apache helicopter fleet thereby exceeded 75 percent throughout the entire operation.

Future of Assault Rifles, Munitions

95UM0318A Moscow VOYENNYYE ZNANIYA in Russian Feb 1995 pp 28-29

[Article by P. Ryabov under rubric "Equipment and Armament": "The Assault Rifle—To Be Continued..."]

[FBIS Translated Text] **At one time the superpowers viewed the existence of the "nuclear club" and "nuclear shield" as the main stabilizing factor of the international situation, but this did not rid the world of local military conflicts in which "vital interests" of the superpowers collided in one way or another. And the ordinary soldier has been and remains the main character in these small wars. His chief weapon today is the assault rifle, and it will remain such in the near future as well.**

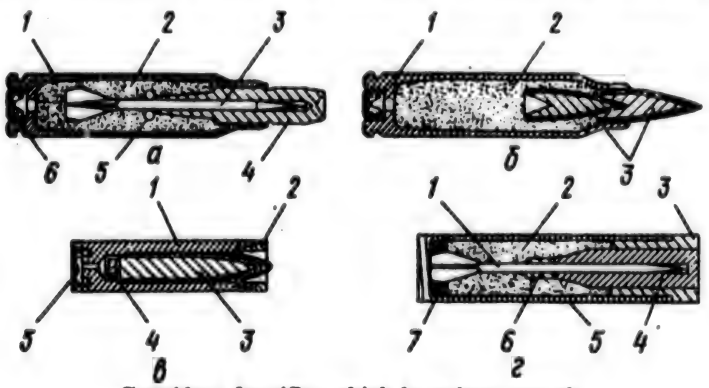
What factors determine the assault rifle's existence and further development? **First of all** it is man's limited capabilities, for as the transient nature of battle increases, the ability to conduct precise, aimed fire and the endurance of a rank-and-file soldier who has not gone through special training diminish more and more. **Secondly** (in the assessment of NATO experts), around two-thirds of a modern army consists of "noncombatants"—servicemen who do not enter into direct contact with the enemy on the battlefield. In addition, attempts to shift the army to volunteer manning, especially in regions with a strained socioeconomic and political situation, will be doomed to failure. Moreover, a decrease in the duration of compulsory military obligation leads to even less professionalism of a rank-and-file soldier. One can count only on the fact that "in case something happens" many "soldiers" merely will be able to squeeze the trigger, and one need not speak about aimed fire at all, especially during rapid movement. **Thirdly,** combat operations are conducted under difficult climatic and geographic conditions—in the mountains, the jungle, the desert. All this affects accuracy of fire and functioning of weapon mechanisms.

Considering all this, what are the optimum features which the modern assault rifle must have, and does it have them? Inasmuch as all participants in modern battle have some kind of protection such as kevlar body armor and a helmet, then a bullet has to have considerable penetrating and killing power. The quality of body armor has grown considerably at the present time, which prompted designers to work to increase the penetrating power of assault rifle ammunition. This includes both experiments with flechettes, whose muzzle velocity has increased to 1,914 m/sec (Steyr-Mannlicher), as well as a further improvement of double-bullet ammunition, which appeared for the first time in Vietnam with the designation M1987. Development of electromagnetic and electrothermal weapons is under way.

Considering the factor of the rank-and-file soldier's low professionalism, the assault rifle must have satisfactory weight-size characteristics and be simple to operate. Some assault rifles now are supplied with a sight leaf, as on a hunting rifle, for instinctively training the weapon on a target (Colt, AAI Corporation and Steyr-Mannlicher competition rifles). The weight of the weapons has dropped considerably, since many parts of modern assault rifles are made of shock-resistant and heat-resistant plastic. The bodies of many assault rifles are made entirely of plastic—AUG (Austria), LAPA FA 03 (Brazil), FA MAS (France), G11 (FRG), and the Steyr-Mannlicher competition rifle. Use of the bullpup layout in configuring weapon mechanisms (positioning the magazine and the trigger and hammer mechanism behind the trigger) "shortens" the rifle, making it more compact, which is especially important for special forces.

Designers also got down to ammunition in the attempt to reduce the weight of assault rifles. Work is proceeding in two directions: manufacturing cartridges wholly or partially out of plastic, and caseless ammunition. For example, the Steyr-Mannlicher competition rifle has a cartridge with plastic case and a flechette with plastic sabot (the discarding part). The G11 rifle has a caseless 4.7-mm cartridge, and its bullet is fully embedded in a parallelepiped made from a mechanically strong, heat-resistant explosive. The AAI Corporation rifle also is designed for using the caseless 5.56-mm cartridge and caseless 4.3-mm discarding sabot cartridge. Nevertheless, the modern NATO 5.56x45 SS109 cartridge (U.S. designation M855) and Russian 5.45x39 cartridge still have considerable casualty effect, and the low recoil force makes lengthy conduct of effective fire possible because of good weapon stability. But the German G11 rifle is the best in the world in the sense of least recoil. In firing three-round bursts, its rate increases to 2,000 rounds per minute, i.e., recoil force affects the rifleman only when three bullets already are "sitting" in the target.

Considering that combat operations are by no means conducted under sterile conditions, the assault rifle must have a reliable design, which in turn ensures its faultless



Cartridges for rifles which have been tested:

Key:

a. AAI Corporation
1. Cartridge case
2. Powder charge
3. Flechette
4. Four plastic sabot segments
5. Ring
6. Primer

b. Colt Industries and Olin
1. Cartridge case
2. Powder charge
3. Bullets

c. Heckler und Koch
1. Powder charge
2. Plastic cap
3. Bullet
4. Accelerating mixture in copper primer cap
5. Combustible primer

d. Steyr-Mannlicher
1. Flechette
2. Powder charge
3. Plastic cap
4. Plastic sabot segments
5. Plastic cartridge case
6. Attachment of sabot segments
7. Annular primer

automatic operation regardless of weather and time of year. Any one of the M.T. Kalashnikov models is a unique weapon in this sense. The AK's working capacity has a semimystical character, where effective fire is conducted with the receiver completely clogged with dirt. But western designers are following another path by supplying the assault rifle with all kinds of hoods for preventing dirt from getting into weapon mechanisms.

The modern assault rifle must be as simple as a "rivet," which enables a soldier to remedy a stoppage in weapon operation on his own under field conditions. The majority of assault rifles are strippable without tools—by pressing a button or removing one or two pins (the majority of western rifles)—and consist of a relatively small number of parts. But there are certain problems in operating modern assault rifles made with a bullpup layout because of the need for left-handers (who make up around 13 percent of a modern army) to transpose the mechanism which extracts fired cartridge cases.

Under present conditions it is also necessary to take into account the possibility of conducting hand-to-hand combat using the assault rifle, especially in the absence of ammunition. This is especially important for special forces, which may use the assault rifle both in ordinary battle and in special operations where it is undesirable to conduct fire, since covertness is necessary. The majority of assault rifles presently are supplied with knife bayonets [Translator note: words apparently missing] exception of steel, and it appears that rifles with the bullpup layout are least adapted for this (with the exception only of the AUG), while the knife bayonet of the British L85A1 probably is the best. And the U.S. M16 surpasses all in the number of different knife bayonets.

Finally, both rate of fire as well as grouping should be placed last in importance. An increased rate of fire leads to instability of the weapon and an unjustified ammunition expenditure, and also to significant overheating of the barrel, which negatively affects the weapon's longevity and grouping. Therefore many (one could say almost all) modern rifles with a high rate of fire (700 rounds per minute or more) are provided with mechanisms permitting fire to be conducted in three-round bursts, and they were given optical sights for increasing the accuracy. Our AK-74M also has a standard optical sight.

Thus, the main requirements being placed on assault rifles of the present day and immediate future can be formulated as follows (I request that you remember the numbering of the points—this will come in handy for us later):

1. High casualty effect of ammunition;
2. Simplicity of operation and convenience of maneuver;
3. Exceptional reliability and operational dependability;
4. Simplicity of design;
5. Possibility of conducting hand-to-hand combat;
6. Accuracy of fire.

It would be interesting to know the extent to which modern assault rifles meet all these requirements. What if we try to evaluate the quality of each assault rifle on a 12-point scale, as in the old cadet corps, and take Kalashnikov's new creation, the AK-74M, for example, as the reference model? For those who do not agree, this choice can be argued if only by the fact that the Kalashnikov, which became operational in 1947, has retained its silhouette to the present time and soon will celebrate its semicentennial without having been subjected to fundamental changes. Tested in battles, it gave a beginning to many "Kalashnikov-like" items throughout the world, from Finland to South Africa. The simplicity and reliability of the AK's design became the talk of the town. The AK is stripped by pressing one button, and the recoil spring assembly is fully removed and the trigger and hammer mechanism becomes accessible.

The AK-74M has a monolithic plastic stock that folds to the left, which increases the possibility of accurate fire and permits effective hand-to-hand combat. It has seats for knife and optical sights. The sturdier design permits firing the underbarrel grenade launcher without installing the additional attachment for the cover and cleaning rod which was necessary on the previous model. The AK-74M can be called a step forward in small arms development and it remains the unsurpassed model in reliability, straightforwardness of operation, quality of manufacture, power of automatic fire and convenience of maneuver.

Here are some specifications and performance characteristics of assault rifles in the inventory of NATO countries and Russia:

Assault Rifle	Length, mm	Weight, kg	Rate of Fire, rounds/min	Muzzle Velocity, m/sec	Muzzle Energy, J
AK-74M (Russia)	940-700	3.4	600	900	1377
AUG (Stg 77) (Austria)	790	3.6	650	Around 940	Around 1680
L85A1 (UK)	785	4.98	650-800	940	Around 1680
M16A2 (USA)	1000	3.8	700-900	940	Around 1680
FA MAS (France)	757	3.8	900-1000	960	Around 1680
G41 (FRG)	997	4.3	850	940	Around 1680

The following grades can be given these assault rifles (figures in upper horizontal row are the numbered requirements for assault rifles):

	1	2	3	4	5	6	Overall Grade
AK-74M	10	12	12	12	12	10	11.33
AUG	11	10	10	10	2	12	9.18
L85A1	11	11	11	11	10	12	11
M16A2	11	11	11	11	12	10	11
FA MAS	11	10	10	10	10	10	10.18
G41	11	11	11	11	12	10	11

NAVAL FORCES

PALASH Close-In Ship Defense Weapon System

95UM0318B Moscow VOYENNYYE ZNANIYA in Russian Feb 1995 pp 32-33

[Article by A. Shirokorad under rubric "You Ask, We Answer": "'Dirk' and 'Cutlass,' but Not for the Boarding Battle"]

[FBIS Translated Text] **On 15 September 1994 a report was broadcast on two Central Television programs from the city of Klimovsk, where the Palash [Cutlass] ship system was being demonstrated. Tell about it in more detail, if possible.**

G. Mambetov (Kabardino-Balkariya)

Several types of antiship missiles became operational with NATO navies in the late 1970's and early 1980's: Exocet (France), Penguin (Norway), Sea Killer (Italy), and Harpoon and Tomahawk (USA). The Anglo-Argentine war confirmed their high effectiveness (especially Exocet) and revealed the weakness of the close-in air defense zone of British ships.

But by that time the Soviet Navy had the rather effective and reliable AK-630M system for combating antiship missiles, and designers already were creating new ones with a higher rate of fire and with more modern fire control systems. The AK-630M's rate of fire was maximum both for the automatic action systems as well as for heating conditions, and so two barrel units taken from the AK-630M (see VOYENNYYE ZNANIYA, No 6, 1994) were used with slight changes in the new close-in self-defense gun systems.

A Council of Ministers Decree came out on 8 June 1983 about beginning the design of the AK-630M1-2 dual automatic gun system. Two standard GSh-6-30K 30-mm automatic guns were mounted one above the other in the vertical plane. The mount used around 70 percent of AK-630 assemblies, including a race and drum fully standardized in dimensions and places of attachment to ship structures, which permitted replacing the AK-630M on a standard barbette with the AK-630M1-2 under shipboard conditions. According to the design, the new mount was equipped with two 2,000-round magazines located in the underturret space. The maximum rate of fire was six 400-round bursts with 5-6 second pauses or five 200-round bursts with a 1-1.5 second pause.

The AK-630M1-2 prototype made at the Tula Machine-building Plant underwent plant tests from 19 March 1984 through 30 November 1984. Subsequently it was mounted on a Design Project 206 motor torpedo boat (serial number 242). The AK-630M1-2 proved itself to be a rather effective weapon during firings in the Black Sea in the summer of 1989; nevertheless, the mount did not enter series production and remained only on one small combatant.

In 1985 work began in the Design Bureau of Instrument Building under the direction of General Designer A. Shipunov on the world's first close-in self-defense missile-gun system, the Kortik [Dagger] 3M87, which later was given the export pseudonym Kashtan. The system is intended for using missiles to engage targets at a point of engagement from 8,000 to 1,500 m and then bringing them under fire with 30-mm automatic guns at a range from 1,500 m to 500 m. Kortik's makeup includes one command module and from one to six combat modules. The command module includes a target acquisition radar, data processing system, target distribution system and target designation system. The combat module consists of the missile-gun mount and a control system with two channels: radar and television-optical.

Specifications and Performance Characteristics of Close-In Ship Self-Defense Systems

	AK-630	AK-630M1-2	3M87
Caliber, mm	30	30	30
Number of barrels	6	12	12
Barrel length, calibers	54	54	54
Gun elevation, degrees	-12, +88	-25, +90	., +90
Angle of deflection, degrees	360	360	360
Unit of fire, rounds	2,000	4,000	1,000
System weight with unit of fire, kg	3,850	4,350	13,500
Swept radius, mm	1,660	1,725	2,760
Height of mount, mm	1,070	1,765	2,250
Total rounds per minute fired by multiple mount	5,000	10,000	10,000
Projectile weight, kg	0.39	0.39	0.39
Projectile muzzle velocity, m/sec	900	900	900

The gun portion consists of two 30-mm barrel units with AK-630 ballistics and ammunition, which automatically commence fire against a target not destroyed by missiles. In contrast to the AK-630, muzzle attachments have been placed on barrel units to protect the gun mount and missile canisters from propellant gases. The 3M87 unit of fire is not in an underturret space, but in two drums (500 rounds each) located next to the units. The previous automatic guns had a belt feed, but the 3M87 uses a "linkless" feed.

Two modules with four missiles in each, housed in cylindrical transport-launch canisters weighing 60 kg, are mounted on the rotating part of the system. The 9M311 missile itself weighs 43.6 kg. It is a two-stage, solid-propellant missile (proximity fuze, radius of action 5 m) standardized with the 2K22M Tunguska tactical air defense system missile. The missile control system is semiautomatic with a radio command communications link. The maximum ceiling of the 9M311 is 3,500 m and minimum is 15 m. The system permits bringing fire on up to six targets a minute.

Kortik was installed for the first time on the Design Project 1241 missile craft Molniya (side number 952) as one module. Then eight modules were installed on the Design Project 1143 heavy air-capable cruiser Admiral Flota Sovetskogo Soyuza Kuznetsov and six modules on the Design Project 1144 nuclear powered cruiser Admiral Nakhimov. Two modules each were accommodated on two Design Project 1154 Neustrashimyy-Class patrol ships. System production has been halted at the present time, but initially it was proposed to use it to replace a large portion of AK-630 gun mounts both on ships being built as well as on those in commission. The ball race and other mounting parts were standardized for this.

Now about the Palash system. In fact, Central Television did show a report from the suburban Moscow city of Klimovsk, where Tochmash Central Scientific Research Institute is located, and among other things showed the Palash ship close-in self-defense system, whose rate of fire, in the commentator's words, is 10,000 rounds per minute. Judging from the television image, Palash is very similar to Kortik outwardly. Two 30-mm barrel units are visible. On top of the mount is a ball, in which the system's fire control instruments evidently are located.

Based on the commentators' words and on the very fact of the broadcast, it follows that the Palash system has not been made operational and considerable amounts of money are needed for its operational development. Will they be found?

Development of a Magnetohydrodynamic Propulsion Systems

95UM0226D Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, 1994 (signed to press 8 Nov 94) pp 54-60

[Article by Captain 3rd Rank A. Sokolov, candidate of technical sciences]

[FBIS Translated Text] Great attention abroad presently is being given to research and development in the area of creating fundamentally new ship electric propulsion systems with propellerless magnetohydrodynamic [MHD] propulsors. The operation of such a propulsor is based on the appearance of thrust (Lorentz force) when a magnetic field directed vertically downward interacts with an electrical current running perpendicular to lines of the magnetic field. The resultant force is perpendicular both to the direction of the current as well as the magnetic field and runs along the ship's principal axis.

In comparison with ordinary propulsion units, an MHD propulsor has a number of advantages: reduced noise level (propeller, shaft line, main geared-turbine set and

so on are absent), good maneuverability, significant efficiency (theoretically it can reach 80 percent), simple configuration of power compartments, and higher propulsion system survivability (with segmental design).

At the same time, MHD propulsors are not devoid of certain essential shortcomings, among which the following can be included: release of a considerable quantity of chlorine and hydrogen at propulsor electrodes as a result of electrolysis of salt water, which is a revealing factor; presence of powerful electromagnetic fields, which on the one hand reveal the submarine and on the other hand exert a negative effect on personnel and on ship electronic systems.

A number of very complex scientific-technical problems had to be solved to remedy these shortcomings and create an MHD propulsor with superconducting magnets providing a magnetic flux density of 10 tesla or more. To this end wide-scale RDT&E has unfolded abroad, within the scope of which the following main directions can be singled out: obtaining materials supporting the appearance of a superconductivity effect at the boiling point of liquid nitrogen (77.3 K) and higher, i.e., high-temperature superconducting materials; creation of cryogenic systems, superconducting magnets, generators, converters, distribution devices and other power plant elements; and conceptual development of the MHD propulsor and the submarine as a whole.

The main problem was to create and maintain a powerful magnetic field in the minimal volume of a device, which required use of superconducting materials based on niobium-titanium alloy. Using electromagnets with windings made of ordinary materials (copper, aluminum) and a steel core, magnetic induction in the MHD propulsor duct is limited by core saturation conditions and is 1.8-2 tesla (with electric conductance of salt water on the order of 51 ohm-meters). Under such conditions, achieving at least 3-5 percent efficiency will require creating magnets of enormous size. Efficiency also can be increased by increasing the electric conductance of salt water by several orders of magnitude or by shifting to superconducting magnet systems.

Electric conductance of salt water can be increased 5-10 times by introducing various additives at the entrance to the propulsor duct, but this is a technically complex task under present conditions.

Discovery of the effect of superconductivity of materials enabled scientists to realistically approach the creation of an MHD propulsor for practical purposes.

In January 1986 American scientists H. Bednorz and A. Mueller discovered the phenomenon of so-called high-temperature superconductivity arising at a temperature of 40-70°K in oxide ceramics, which served as a powerful impetus to expand work in this area. As a result, in the spring of 1987 a group of American physicists synthesized a superconducting ceramic material, which included yttrium, barium and cuprous oxide, with a critical temperature of 90-100°K, which permits using liquid nitrogen as a coolant; it is 200 times less expensive (it can be obtained from air) and much more effective as a coolant than helium (its heat of vaporization is 10 times higher). In addition, the design of cryogenic nitrogen units is considerably simpler, their dimensions are approximately five times less and they consume approximately seven times less electrical energy than similar helium units. But the material based on yttrium, barium and cuprous oxide did not possess necessary electromechanical and technological characteristics, and so the search continued for more ideal superconducting materials.

In 1988 independent researchers obtained superconductors based on bismuth and thallium with critical temperatures of 110°K and 125°K respectively. All superconducting materials synthesized as of the present time can be divided conditionally into four groups based on chemical composition and critical temperature.

	Critical Temperature, K
$Ba(Pb, Bi)O_3$	10
$(La, Me)_2CuO_4$ (Me - Ba, Sr, Ca)	40
$Ln\ Ba_2\ Cu_3\ O_7$ (Ln - rare-earth metals)	90
$Bi_2\ Sr_2\ Ca_2\ Cu_3\ O_{10}$	110
$Tl_2\ Ha_2\ Ca_2\ Cu_3\ O_{10}$	125

Thus, almost a sixfold increase in critical temperature was achieved in the United States during the period 1986-1988, which can be viewed as a scientific-technical breakthrough in the superconductivity area.

In the course of research much attention was given to improving other characteristics of superconducting materials, particularly increasing critical current density. As a result, values of this parameter for conductors were taken to 105 A/cm^2. From all appearances, in the second stage of research (1990-1993) superconducting materials were synthesized with a critical temperature over 150°K and a critical current density above 106 A/cm^2 (at a temperature of 77°K). The successful conclusion of this stage may create real conditions for the development during 1994-1997 of superconducting magnets (with magnetic induction up to 20 tesla), superconducting generators and other nitrogen-cooled equipment.

Developments of similar helium-cooled systems were carried on simultaneously and reached greatest scope during 1970-1985. In particular, the U.S. firm of Westinghouse created an experimental superconducting generator with 5 MW of output and developed the design of a synchronous generator with 300 MW of output.

Work in the area of creating helium-cooled superconducting systems continues at the present time. In particular, U.S. D. Taylor Research Center specialists are

engaged in developing superconducting magnets insensitive to impact effects and possessing high characteristics, and also helium cooling systems for superconducting equipment. In addition, the United States has developed a unipolar superconducting generator with an output of 300 kw (30 volts, 10,000 amps). The prototype already has gone through demonstration tests and a program for increasing its output and improving other characteristics is being carried out at the present time.

The level reached at the present time in the field of high-temperature materials enables the creation of the first models of nitrogen-cooled superconducting equipment. Thus, Argonne Laboratory (Illinois) has developed and built an operating model of a small, high-temperature superconducting electric motor. Its winding is made of ceramic material according to the following technology: finely crushed ceramics are melted, then wire is made to which a nonconducting ceramic layer is applied, and then (before the natural cooling process ends) the winding of an electric motor is formed, which subsequently is fired in a special furnace at a high temperature. The immediate goal of U.S. scientists is to create a nitrogen-cooled electric motor with an output of 10,000 hp.

The United States is conducting RDT&E on the conceptual design of an MHD propulsor and on simulation of processes arising in its duct. Limited scale-model experiments also are being conducted not requiring significant capital investments, but permitting a practical check of the most important theoretical conclusions. Western experts include the following among the most complex technical problems which must be solved in early design stages: configuration of an MHD propulsor duct, design of a superconducting magnet, compatibility with other engine components, system of excitation and protection of a superconducting magnet, design of a system for cooling superconducting equipment, assurance of reliability and effectiveness of the cryogenic system, materials for electrodes in the propulsor duct and their design, gas formation on the electrodes and their corrosion, monitoring magnetic, acoustic and chemical parameters,

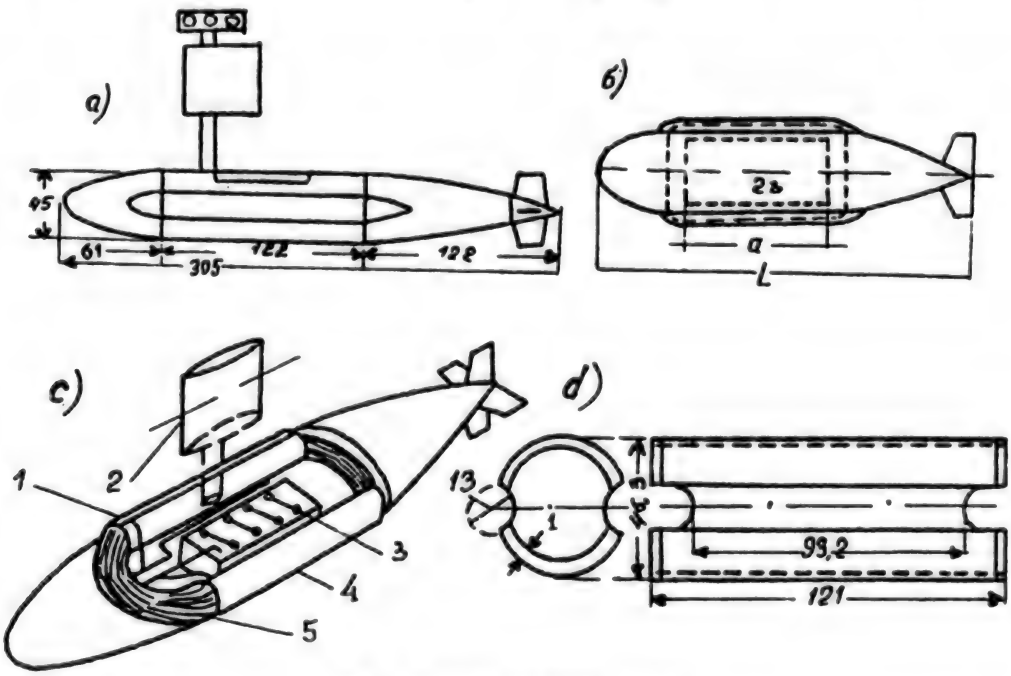


Fig. 1. Diagram of EMS-1 model

Key:
a. Side view
b. Plan view
c. Layout of main propulsor elements
d. Central hull section
1. Anode
2. Waterline
3. Storage battery
4. Cathode
5. Electromagnetic winding

weight-size characteristics, effectiveness and cost of the propulsor, conductivity of salt water, and integration of the new propulsor with a submarine design.

A number of models of submarines and vessels were developed and built in the course of research of the magnetodynamic principle of propulsion in the United States and certain other countries. Such a model (EMS-1) was created for the first time at the University of California in July 1966 (Fig. 1). It was 3.05 m long, had a diameter of 0.46 m and weighed around 400 kg. The central part of the hull, on which the excitation winding was wound, was made of steel and the ends were made of glass-fiber-reinforced plastic. The magnetic field was created by the winding of an electromagnet whose turns were laid in the horizontal plane in a longitudinal direction relative to the model's hull. The excitation system was made in the form of two windings of aluminum wire 388 m long (268 turns) and one winding of copper wire 366 m long (134 turns). Electrodes were placed on the sides of the winding, creating the magnetic field; the electrodes were in immediate contact with salt water and isolated from the hull and windings. The power source (a lead-acid storage battery with a capacity of 217 ampere-hours and weighing 150 kg) created 27 volts and a current strength of 110-120 amperes in the circuit, which supported the model's movement for 20 minutes. The model developed a speed of 0.3 m/sec 100 seconds after the beginning of movement. Maximum speed was 0.5 m/sec with a thrust of 1.18 N.

In Japan in 1976 specialists of the Mercantile Marine University together with the Kawasaki Heavy Industries shipbuilding company engineering research laboratory created and tested a model of a surface vessel (SEMP-1) with an MHD propulsor 1.1 m long, whose design used a superconducting electromagnet for the first time in the world.

In 1980 Kawasaki Heavy Industries in cooperation with scientists of universities in the cities of Kobe and Osaka conducted successful tests of the ST-500 ship model with MHD propulsor. It was made of wood and had a length of 3.6 m, a beam of 0.7 m and weighed 700 kg. Two superconducting electromagnet windings, designed for a maximum current strength of 420 amperes, provided a magnetic flux density of 2 tesla (theoretical magnetic flux

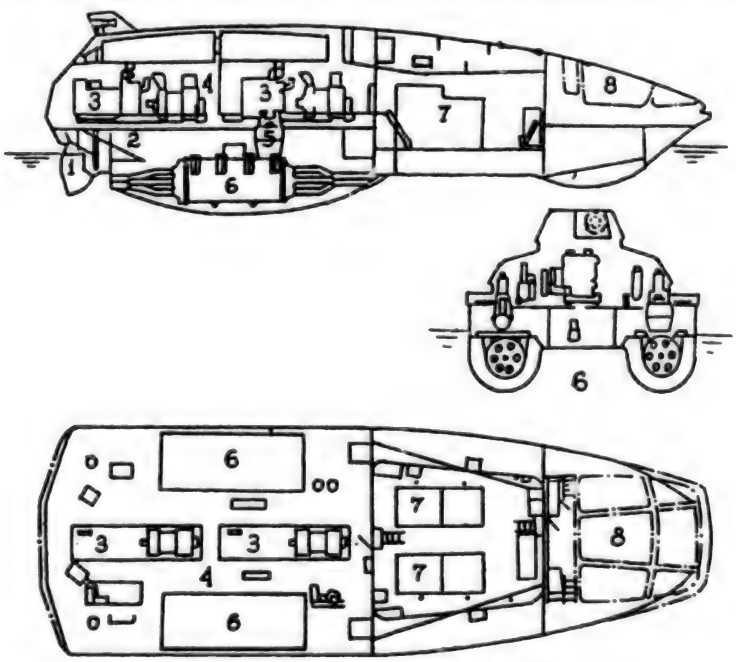


Fig. 2. Yamato-1 experimental vessel

Key:
1. Steering arrangement
2. Reserve propulsor
3. Main generator
4. Power compartment
5. Liquid helium cryogenic unit
6. MHD propulsor
7. Distribution panel
8. Wheelhouse
9. Auxiliary generator [number not shown in diagram]

density was 5 tesla). Titanium electrodes coated with a platinum alloy were arranged beneath the bottom of the model. Power was supplied by cable from the basin wall. A speed of 0.6 kts and thrust of 15 N with a current strength at the electrodes and in the windings of 65 and 350 amperes respectively were registered during the tests. In 1986 the model of a vessel with MHD propulsor (2.6 m long, weighing 420 kg) was created in Japan with the participation of Toshiba and developed a speed up to 2 m/sec in tests.

Relying on successes achieved during tests of models with new propulsors, Mitsubishi Heavy Industries began developing the design of the world's first vessel using this principle of movement—Yamato-1, with a displacement of 150 tonnes (Fig. 2). The characteristics of its propulsor are given below.

Number of superconducting dipole windings	6
Diameter of one duct, m	0.26
Magnetic flux density, tesla	4
Maximum current density in duct, A/m^2	4,000
Length of electrodes, m	2.5
Generator power output, kw	3,800
System weight, t	100

Several designs were considered in creating the vessel, and as a result a version was chosen with two duct-type propulsors situated on each side. Each had six ducts for passage of salt water, surrounded by dipolar superconducting electromagnet windings made of niobium-titanium alloy. The electrodes were accommodated within the ducts. Such a design was adopted to minimize dissipation of the magnetic flux, which on the one hand increases propulsor efficiency and on the other hand facilitates building magnetic protection of the wheelhouse and other vital ship places. Liquid helium is used as coolant in the cryostats.

The hull of this vessel, 30 m long, was designed by a group of specialists of Tokyo University and fabricated at the Mitsubishi yard. The arrangement of the underwater afterbody in the form of two capsules in which the propulsors are accommodated permitted substantially reducing hydraulic resistance. That design makes Yamato-1 similar to a catamaran. Her full displacement was 185 tonnes (counting the weight of water in MHD propulsor ducts).

As of the present time the Japanese Foundation for Shipbuilding Advancement has allocated 5 billion yen to various firms for developing an MHD propulsor and the Yamato-1 experimental vessel. For example, Mitsubishi and Toshiba fabricated two sets of propulsors, Kobe Steel supplied the liquid helium cryogenic unit, Sumitomo Electric developed a superconducting winding for one of the propulsor sets, and Furukawa Electric developed one for the other. Considerable appropriations also were allocated for sea trials of Yamato-1, which began in June 1992. A speed of 6 kts was achieved during trials, but Japanese specialists believe that after certain improvements this vessel will be able to develop a speed over 50 kts with a low noise level. The immediate goal of developers is to increase the output of electromagnets by 2-3 times and improve their magnetic characteristics, which appears fully realistic on condition of the use of high-temperature thallium- and bismuth-containing superconducting materials. Representatives of Sumitomo Electric see no special obstacles to developing corresponding windings out of these materials already by the end of the current decade.

The United States also is giving great attention to creating superconducting equipment and systems. Argonne Laboratory, with the participation of the Defense Department Advanced Research Projects Agency, created the world's largest superconducting magnet and a full-scale demonstration model of an MHD propulsor (in the form of a closed loop), permitting fluid flow conditions in the duct to be modeled and its optimum parameters to be determined. A reduced version of such a loop in which salt water is used was built at the U.S. Naval Underwater Systems Center. Processes of gas formation on propulsor electrodes in the course of electrolysis, optimization of electrode and duct design and so on are studied here. Research and experiments in this area also are conducted at the U.S. Naval Academy and D. Taylor Research Center. Questions of creating a ship MHD propulsor are being worked on by specialists of AVCO Corporation together with representatives of Newport News Shipbuilding and Drydock.

In addition, the United States is developing designs of submarines with MHD propulsors on a conceptual level to determine an optimum propulsor configuration and to integrate it with the design of advanced ships of this type. Four main types of MHD propulsors were considered: squirrel cage, annular, linear (or dipolar), and double solenoid (Figs. 3-6).

Research which has been conducted shows that annular and linear types of MHD propulsors appear more preferable from the standpoint of prospects for their use on submarines, since they provide a higher level of concealment, survivability and controllability. In comparing them with each other, it was learned that the annular MHD propulsor provides a higher water flow rate through the duct with approximately equal wetted surface areas and, as a result, higher values of efficiency, thrust and other characteristics dependent on that parameter.

Different versions of accommodating an MHD propulsor on a ship's hull were analyzed. As a result it was established that the most optimum place for installing an annular propulsor is the submarine pressure hull in the vicinity of the power compartment (Fig. 7). This supports a high flow velocity at the duct entrance and high thrust and permits the propulsor to remain within the submarine's overall dimensions. With use of the new

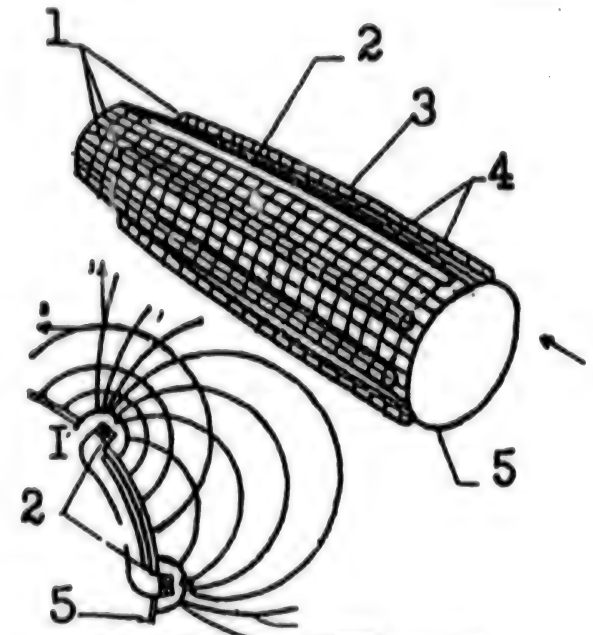


Fig. 3. Squirrel cage MHD propulsor:

Key: 1. Anode
2. Magnet winding
3. Protective jacket
4. Cathode
5. Submarine hull

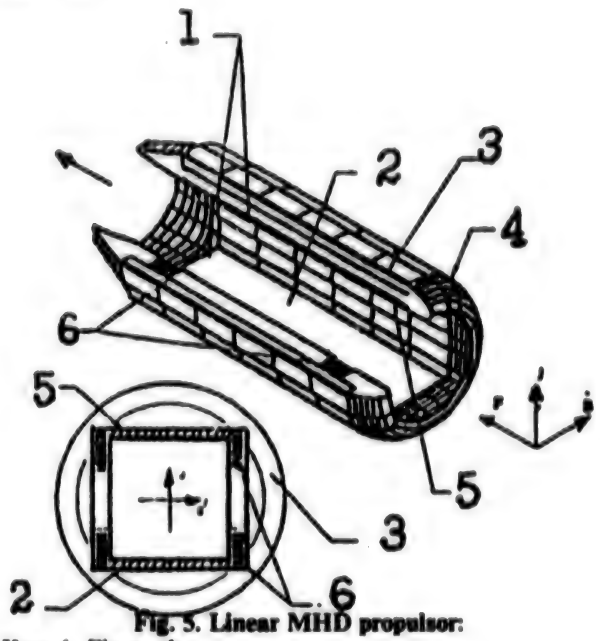


Fig. 5. Linear MHD propulsor:

Key: 1. Electrodes
2. Anode
3. Carbon plastic casing of propulsor
4. Propulsor duct inlet
5. Cathode
6. Magnetic winding

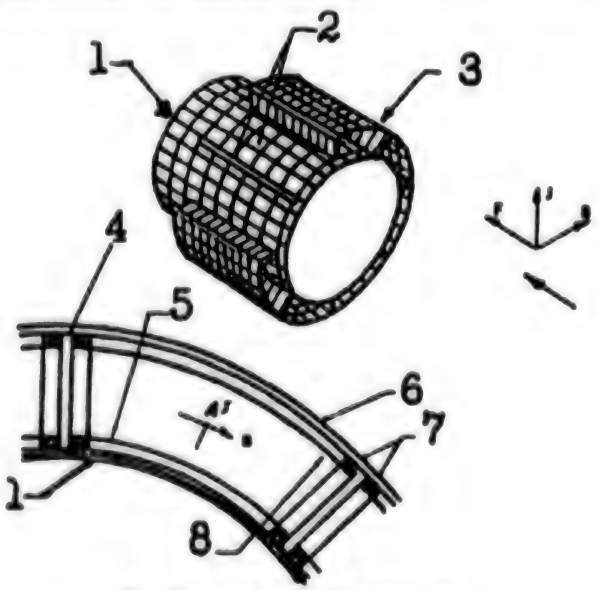


Fig. 4. Annular MHD propulsor:

Key: 1. Submarine hull
2. Electrodes
3. Outer propulsor surface
4. Element of propulsor's supporting structure
5. Anode
6. Carbon plastic
7. Winding of magnet segment
8. Cathode

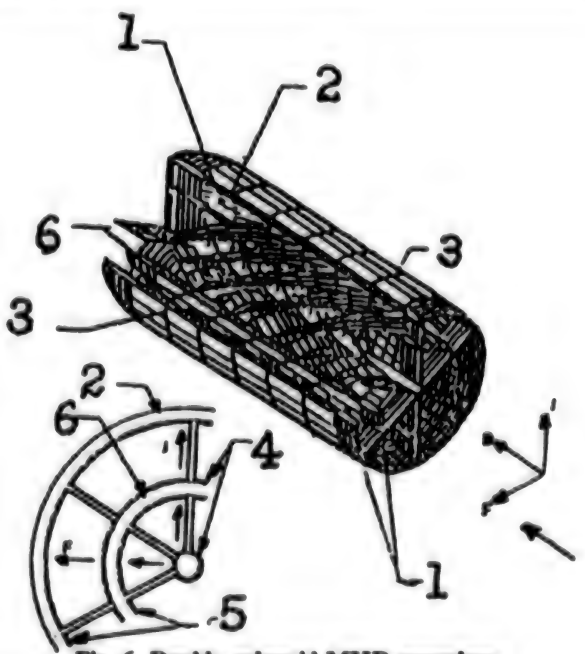


Fig. 6. Double solenoid MHD propulsor:

Key: 1. Electrodes
2. Outer solenoid winding
3. Direction of water flow in propulsor duct
4. Anode
5. Cathode
6. Inner solenoid winding

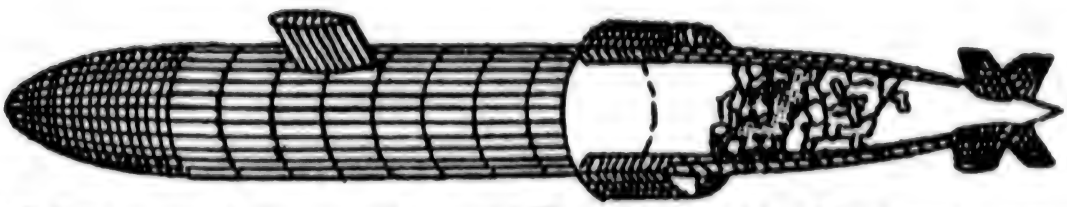


Fig. 7. Rough drawing of submarine with annular MHD propulsor located in vicinity of power compartments

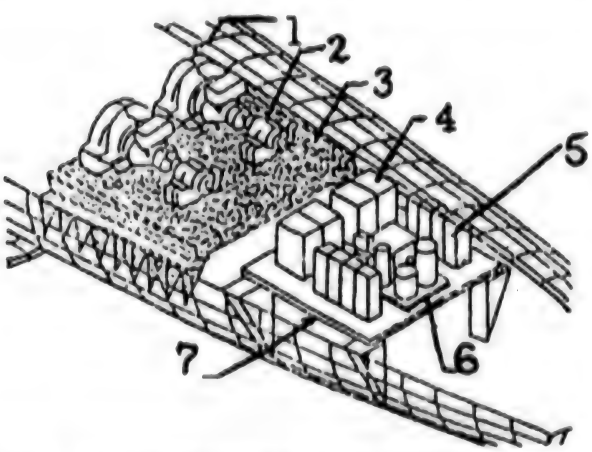


Fig. 8. One version of power compartment configuration of a submarine with MHD propulsor:

Key:
1. Turbine
2. Generator
3. Platform
4. Distribution panels
5. Controllers
6. Cryogenic unit
7. Deck

propulsor, the main geared-turbine set is excluded from the makeup of the power plant, and as a result, machinery can be configured more effectively in submarine compartments (Fig. 8).

Different approaches to building a system supplying the MHD propulsor with electrical energy also were considered. The simplest method is to connect a dc generator directly to its windings and change thrust by varying output parameters. But that method does not permit controlling each propulsor segment individually. To remedy this shortcoming it is proposed to use highly efficient power thyristors. By changing the thyristor's angle of connection, it is possible to control electrical voltage supplied to the MHD propulsor segment winding. Power also can be supplied to other ship electrical energy consumers in a similar manner.

In the course of research it was established that use of an annular MHD propulsor on submarines will lead to an increased number of openings (by a minimum of 12) in the pressure hull compared with ordinary submarines. Therefore additional steps must be taken to ensure proper hull strength, especially at places where the magnet's superconducting windings and cryogenic cooling system lines enter and exit.

Designers examined a version of accommodating the MHD propulsor in the submarine afterbody. In their opinion, this will have a positive effect on the hull's hydrodynamic characteristics inasmuch as there will be increased uniformity of water flow at the entrance to the MHD propulsor duct.

The design of a Los Angeles-Class SSN with annular MHD propulsor around 20 m long and with a duct height around 1.5 m was the result of numerous design developments. Designers envisaged that the S6G nuclear reactor must be used without changes and the main geared-turbine unit, shaft line and propeller will be excluded from the engine-propulsor complex and replaced by electric generators. This frees up a considerable volume within the pressure hull and overall power plant weight is reduced by approximately 265 tonnes. A further economy of weight and volume can be achieved by excluding from the power plant the ship turbogenerators and systems supplying power to the ship's electrical system from the main generators. It is believed that operation of the cryogenic unit will require around 200 kw.

According to preliminary assessments, such an SSN will have a speed of around 30 kts with a power plant electric output of 35 MW. Acceleration from 0 to 30 kts will be accomplished in 3 minutes, and a full stop will be made in a little more than one minute when moving at maximum speed. A distinguishing feature of such an SSN is a reduced noise level and higher survivability and controllability.

The main element of the MHD propulsor developed for the Los Angeles-Class SSN is a permanent superconducting magnet consisting of 16 windings and having a length of 15 m, an inner radius of 6 m, outer radius of 8 m, and distance between electrodes of 1.5 m. It will create magnetic induction of around 6 tesla in the propulsor duct and around 9 tesla at the finish of the windings. When current is passed through the magnet's windings, considerable loads arise in the propulsor structure, and their specifics are such that elements adjoining the submarine pressure hull experience compressive

stress and those on the outer surface of the propulsor experience tensile stress. Steel bears such loads poorly, and so it will be more promising to use composite materials in creating the MHD propulsor. Best results are ensured by fabricating the inner and outer structures of the propulsor from two different materials (see table).

Weight-Size Characteristics of Supporting Structures of Annular MHD Propulsors

Material type	Structure on outer radius of MHD propulsor (with constant strength load of 100 kg/cm^2)		Structure on inner radius of MHD propulsor (with maximum strength load of 170 kg/cm^2)	
	Thickness, cm	Weight, t	Thickness, cm	Weight, t
IM6 carbon plastic	8.05	95	35.1	319
UHM carbon plastic	9.4	110	28.5	260
Kevlar-49	7.62	87	-	-
Polyethylene of spectrum 1,000	6.35	41	-	-
Aluminum	-	-	25.4	484
Boron	-	-	24.1	309
P100S carbon plastic	-	-	13.5	147
17-4 PH steel	7.37	430	24.4	1108

In addition, propulsor supporting structures can be made in the form of "honeycombs" (the honeycombs are small vacuum cavities capable of withstanding outside hydrostatic pressure when the submarine submerges), which provides additional strength and zero buoyancy of the entire structure. Using composite materials in the structure of MHD propulsors presently involves a high degree of technical risk, but subsequently may provide an additional weight advantage.

And so as a result of joint research by specialists of Argonne Laboratory and of AVCO, General Dynamics and other firms, basic approaches have been developed to designing MHD propulsors, which, as tests have shown, can propel a submarine in which they are installed at a speed equal to 80-100 percent of the speed of modern submarines.

UKRAINE

Work on An-70 Transports Will Continue Despite Crash

95UM0315A Kiev NARODNA ARMIYA in Ukrainian 21 Feb 95 p 1

[Article by Colonel Oleh Bachayev: "The An-70 Will Certainly Go Up Again Nonetheless!"]

[FBIS Translated Text] These days are colored with great pain and sympathy for the tragedy that occurred on February 10 at the Hostomel airfield. Ukraine lost seven brave people, led by the commander of the fundamentally new An-70 military-transport aircraft, Serhiy Maksymov. The "seventy," as Serhiy himself used to say, was the forty-first type of aircraft that he has had to master. And, as it turned out, the last...

Those who perished tragically were given their last respects this week. They found their repose in the very same Kiev cemetery where the crew of the Ruslan is buried; they had also tried to save the hardware but not their own lives. We will be grieving this grave loss for a long time to come, a loss that nothing will fill for the relatives and friends of those who perished and fo the whole workforce of the ANTK [Aviation Scientific and Technical Complex] imeni O. Antonov.

But however painful the fact of human losses may be, an exceptionally important question remains nonetheless—have Ukraine and Russia, as the principal developers of the new-generation medium military-transport aircraft, lost scientific and technical primacy after this great misfortune? The crash of the only existing copy of the experimental aircraft, after all, puts the aircraft builders into the situation that the European Euroflag association is in, developing a model of the FLA aircraft that is similar in characteristics to the An-70.

But it is not just that the "seventy" has been lost. A governmental commission headed by Vice Prime Minister and Minister of Defense of Ukraine Valeriy Shmarov is at work now. The editors maintain constant contact with the ANTK, where we were informed in particular that with the assistance of the so-called "black box," which has been found, the most experienced specialists in Ukraine and Russia are now investigating the causes of the crash. This work is naturally prolonged and painstaking, and it would be impossible and unethical to draw any conclusions before the official findings of that commission.

One may recall, at the same time, that the aircraft was created on the basis of the latest technologies, most of which fit the term of "for the first time." This pertains to the aerodynamic configuration of the wing, the power plant with the propfan engines and, especially, to the electrical and hydraulic control systems, composite structures etc. Particular attention will perhaps be focused on those very elements. And if any defects are found there, then the aircraft builders will be forced to return to stage one in the creation of the aircraft (recall that the whole program is figured for 15 years), which will require considerable expenditures of intellectual labor and, most importantly, great amounts of money.

But I repeat that we need to wait for the official findings, although some moral and ethical lessons could be drawn from the tragedy today as well.

Frankly speaking, each stage in the creation of the "seventy" was accompanied by too many ceremonial communiques; we journalists had a hand in this as well. Meanwhile, the large problems encountered by the aircraft builders not only during assembly, but also during the first test flights, were mentioned only superficially. Such a mood and the shortage of funds possibly hindered them in implementing the prior idea, when they planned to build two aircraft: one An-70 as such, and another with equipment and engines that had already been tried out on other aircraft...

The tragedy testifies that one cannot toy with the "fifth ocean." As one should not, taking into account the grave economic situation in both nations, make overly optimistic forecasts for the future. That is what happened last Wednesday, when the UT-1 evening program, with reference to Interfax-Ukraine, offered the news that the new An-70 would apparently be built this year, and the series production of the aircraft would begin in 1997. I got in touch immediately with the lead specialist at the Antonov ANTK for advertising, Heorhiy Nesterenko, whose name had been mentioned in that information. Heorhiy Heorhiyovych stated that the information did not correspond to reality. Nesterenko had expressed to the correspondent his own point of view pertaining to such possibilities, but only provided the consequences of the crash are taken into account and there is suitable financing for further operations—a question that remains an open one.

But we nonetheless believe that the An-70 will fly into the 21st century, as was written in one of the festive reports. After all, whatever the economic conditions in both nations, the necessity of maintaining world primacy will provide an impetus for the work and for finding the money. The gigantic potential of the workforce of the Antonov ANTK is the guarantor of that, and we know that they will never retreat in the face of misfortune, no matter how great it may be.

The new flight of the An-70 will moreover be the best memory to those who gave their lives so as to give flight to this wondrous craft.

Ukraine's Place Vis a Vis NATO, Partnership for Peace

95UM0314A Kiev NARODNA ARMIYA in Ukrainian 22 Feb 95 p 3

[Article by Colonel Volodymyr Tertychnyy, previously identified as Deputy Head of the Center for Administrative Control of Strategic Nuclear Weapons, under the rubric "Viewpoint": "Our Place in Collective Security"

[FBIS Translated Text] The military-political climate on the European continent was sharply altered after the break-up of the Warsaw Pact and the Soviet Union. The confrontation of two diametrically opposed camps disappeared, even though the NATO bloc remained in its original form. The newly independent Eastern European countries naturally launched an active search for their own niches in the system of collective international security, giving preference to NATO. And the question of expanding NATO has appeared on the agenda.

But neither the leadership of NATO nor the leadership of the United States have gotten their bearings yet on this issue. The situation in the Eastern European countries is far from the political and economic stability that would permit those countries to become full-fledged members of NATO, while NATO would be resolving to assume responsibility for ensuring their security. This situation was in fact the impetus for the development of the Partnership for Peace program—a "transitional bridge" on the path of the Eastern European countries into NATO. This alliance of independent nations is a kind of club, in which issues of collective security will be discussed and proposals to ensure it will be devised. The leadership of NATO, at the same time, is taking a close look at who is worth having in this alliance, and is gaining an opportunity to work out new tactics and strategy with a regard for the changes in the situation and the disposition of forces in Europe.

This path is very advantageous for the ex-socialist countries of Eastern Europe. The small size of their armed forces, small quantity of weaponry and vehicles in their service, and the lack of their own highly productive military-industrial complexes (VPKs) all create conditions for bringing the armies of those countries up to NATO standards in a very short period of time. It would not be a difficult task to equip them with the weaponry and vehicles that are used in the NATO countries, directly from the arsenals and warehouses or, most likely at first, with outmoded models that are being taken out of service in the course of upgrading the NATO armed forces, and to coordinate the training and retraining of servicemen at the military schools of the Western countries.

The situation is somewhat different with Ukraine, which has the second largest armed forces in Europe in size and fighting ability. The army is manned, but the arsenals are filled with hardware and weaponry from the former Soviet Union, which has sufficient service life left to operate for another 10—15 years. There is a high-capacity VPK in Ukraine that is able, provided certain measures are taken and given sufficient financing, not only to repair and rehabilitate the existing models of weaponry and hardware, but also to set up the output of domestic models in a self-contained cycle. Ukraine is also actively proceeding in the direction of restoring disrupted economic ties with Russia and the other CIS countries, which cannot help but affect the sphere of cooperation in the military realm as well. I have in mind the integration of the defense enterprises of the CIS countries, which will not survive under the difficult economic conditions that have taken shape in these countries without mutual support. The Armed Forces of Ukraine are staffed with cadre officers who were trained at the higher educational institutions of the former USSR, and the program of their professional training at the national educational institutions has not undergone any great changes today.

Ukraine has furthermore voluntarily rejected the nuclear weapons that are located on its territory, acceded to the Nuclear Non-Proliferation Treaty, and demanded and received guarantees of its own security from the countries in the nuclear club instead.

In the event a conflict situation breaks out, however, neither the Partnership for Peace program nor the guarantees given in Budapest would provide Ukraine with any real protection. Such a guarantee could be advanced by NATO or some other bloc in whose charter the granting of military assistance is prescribed.

A natural question is, What about the principle of non-alignment and neutrality that has been proclaimed by the Supreme Soviet of Ukraine? That is also not a guarantee of security, however. Reality shows that this principle has already outlived itself, and if a principle does not conform to reality, then principles are changed.

Security can only be collective in the political situation that has taken shape in the world today, and Ukraine must be integrated into it in a way that is realistic, shorter and cheaper for it today. This is the path of collaboration with the CIS countries, and first and foremost the Slavic ones. But insofar as an eastern system of security that would satisfy our country has not yet been formed, while NATO is not prepared to accept Ukraine into its structure, the sole reliable guarantee for the security of Ukraine today is its own Armed Forces. And then, while investing funds in providing and maintaining their high combat readiness and strengthening that process using the political dividends that Ukraine will receive by getting rid of the nuclear weapons, while not refusing to participate in the Partnership for Peace program, Ukrainian politicians will have a breathing space that will allow them to determine into which system of collective security—the western or the eastern—Ukraine will finally be integrated.

Antonets Briefs Journalists on Strategic Air Force Prospects

95UM0314B Kiev NARODNA ARMIYA in Ukrainian 28 Feb 95 p 1

[Article by NARODNA ARMIYA special correspondent Lieutenant-Colonel Nykyfor Lysytsya: "Strategic Aviation of the Ukrainian Air Force: What Will Be Its Fate?"]

[FBIS Translated Text] *That was the main theme of a briefing by the commander of the Ukrainian Air Force, Lieutenant-General Volodymyr Antonets, who visited Pryluki the other day. Representatives of the mass media were not only given information at the air base there, but they were also shown the strategic bombers that our state has today. The journalists had an opportunity to mingle with the military aviators, look over the aircraft, and observe the flights of some of the missile-carrying aircraft.*

The crew of a Tu-160 headed by Lieutenant-Commander Mykola Babich made a demonstration flight over the airfield. A crew commanded by Lieutenant-Colonel Vyacheslav Yershov flew a Tu-22 aircraft at the lowest possible altitude and at quite high speed. The crew of Lieutenant-Colonel Valeriy Vyshnevskyy demonstrated its proficiency on the Tu-134 UB-L trainer aircraft. And Major Ivan Chernenko and his navigator executed advanced aerobatic maneuvers in an Su-27 aircraft.

Lieutenant-General Volodymyr Antonets, beginning his presentation to the journalists, indicated first of all that Ukraine occupies third place in the world in the quantity of military aircraft hardware since the break-up of the Soviet Union.

The commander of the Air Force also indicated that significant long-range strategic aviation, equipped with the Tu-160, Tu-95M and Tu-22 aircraft, has also remained in Ukraine. The missile-carrying Tu-160 had the principal assignment as the aircraft of nuclear parity, and was intended only for use with nuclear weapons, namely cruise missiles, on board. Its overall weight is as much as 300 tonnes. The Tu-95M is slightly smaller, but its mission is the same.

Ukraine, as is well known, has declared itself to be a non-nuclear state, and has indeed taken that path. Problems are thus arising with the aforementioned missile-carrying aircraft of long-range aviation. Non-nuclear versions of the Tu-160 and Tu-95M could carry 40 tonnes of bombs. Quite considerable technical refitting would be required for them to be able to do that, however. That could be done, but there are quite a few problems with it as well. Technical documentation would be required first of all, but it is in Russia, where the aircraft were manufactured. The manufacture of bomber instruments requires no less than three years, even when the appropriate documentation is available. The installation of that equipment on the aircraft would require another two years. The cost of the work is up to 20 trillion karbovantsi for each aircraft. And the effectiveness of weapons delivery would decrease by 0.2 percent compared to the nuclear versions after all this.

The maintenance of a single Tu-160 aircraft, in the words of Lieutenant-General Volodymyr Antonets, costs 418,000 U.S. dollars, and the Tu-95M 200,000 of the same currency, per year. Also important is the fact that one refueling of the former aircraft takes 170 tonnes of aviation fuel, so this giant "eats" up to 15 tonnes of aviation fuel for each hour of flight. Some other measures were also given, but it can be seen from these figures that the effectiveness of weapons delivery and the cost of maintaining strategic bombers are not compatible concepts for our Armed Forces. The question of what to do with them is thus very much to the point.

The stance of the leadership of the Air Force is reduced to transferring the Tu-160 and Tu-95 MS aircraft to Russia, of course on acceptable terms. Certain steps have already been taken in this direction, as was indicated at the briefing. There have been several official and unofficial meetings at various levels. General agreement has been reached, but some problems have come up. The principal one is estimating the value of those aircraft. The approach on our part has been as follows: the U.S. B-1B aircraft costs 360 million dollars. The Tu-160 and Tu-95 MS aircraft are valued considerably more cheaply, although we are not talking about monetary payment here. A word that is very popular today—barter—could be employed here. The leaders of our military agency would like to obtain the essential repair matériel and kits for the aircraft that have remained in service with us, and the performance of repairs and technical servicing for those aircraft so that their service lives can be extended. The Russians are entirely in agreement with these terms, but still value our aircraft very cheaply, so matters have still not come to a final resolution.

So what will happen if the "barter" finally takes place? Will Ukraine be left entirely without strategic aviation? Some in the higher military leadership are taking just that stance—we have a defensive doctrine, they say, and short-range aviation is enough for us. The commanders of the Air Force, and Lieutenant-General Volodymyr Antonets himself, hold a different viewpoint. In the words of Volodymyr Mykhaylovych, there have to be strategic forces or strategic counterforces in Ukraine. But what will they be composed of, if the operational-tactical missiles are withdrawn to Russia and the strategic nuclear missiles are dismantled and their warheads are also taken away? Only aviation could then have strategic counterforces in its composition, provided it has the appropriate aircraft. And that is the Tu-22, which will be used in a non-nuclear version but with a quite considerable bomb load and a large operating radius. Its primary purpose during combat operations is to make mass bombing runs against important enemy military targets and strategic and operational reserves. There are no other means for doing this. There is a small quantity of

Tu-22 aircraft in Ukraine for this, albeit with considerable service lives and well-trained crews. They must therefore be preserved as the strongest weapons of the Air Force of our nation.

Aerospace Cooperation Prospects With Russia, Belarus, US Explored

Antonets, Petrov Address Vinnytsya Meeting

95UM0303A Kiev NARODNA ARMIYA in Ukrainian 4 Feb 95 p 1

[Report by Lieutenant-Colonel Nykyfor Lysytsya from Vinnytsya under the rubric "NA Special Correspondents Report:": "Operational-Mobilization Assembly of Aviators Takes Place"]

[FBIS Translated Text] An operational-mobilization assembly of the ranking personnel of the aviation formations and large units was held the other day at the headquarters of the Air Force of Ukraine. Its chief aim, in the words of the Air Force commander, is to fill in some gaps in the knowledge of the officers at the command level who were recently assigned to their posts, as well as to devise, through joint efforts, new standard documents pertaining to the employment of aviation in defensive operations to protect our country.

Lectures were presented to the participants in the assembly by Ukrainian Air Force Commander Lieutenant-General Volodymyr Antonets, Chief of Staff Major General Yuriy Petrov and other deputies of the commander, chiefs of directorates and services. They reported on the principal demands advanced toward the Air Force by the commanders of the Armed Forces, and set forth their views on the training of pilots under contemporary conditions, ensuring combat readiness and employing aviation in defensive operations.

Seminars and tests, as well as command/staff gaming using maps, were conducted during the assembly. All of this will promote a rise in the operational and methodological preparation of the generals and officers of the command-and-control structures of the Air Force.

U.S. Help in Training Sought

95UM0303B Kiev NARODNA ARMIYA in Ukrainian 14 Feb 95 p 1

[Article by Lieutenant-Colonel Nykyfor Lysytsya from Vinnytsya: "The Ukrainian Air Force and the U.S.: Ways of Cooperating Being Arranged"]

[FBIS Translated Text] That is what may be said regarding the results of a meeting of the commander of the Ukrainian Air Force, Lieutenant-General Volodymyr Antonets, with the military and air attaché of the United States in Ukraine, Lieutenant-Colonel John (Sherkus), that took place the other day in Vinnytsya. The principal topic that was discussed was the coordination of several issues connected with the visit to Ukraine of U.S. Air Force Chief of Staff General Ronald R. Folgman, which will take place in the middle of March.

A whole series of issues pertaining to further collaboration of the kindred branches of the armed forces of the two nations was reviewed during the discussions of the leadership of the Ukrainian Air Force and the military diplomats of the United States. They discussed in particular the involvement of Ukrainian fliers in military exercises that will be conducted on the territory of the United States, the holding of joint exercises by representatives of Military-Transport Aviation, and the devising of some details connected with the delivery of humanitarian cargo, among others.

The training of cadre military personnel was a particular topic of discussion. The Americans are prepared, with the aid of a specially created fund, to provide—and already are providing—an opportunity for military specialists to train in various courses of study at colleges and academies of the Armed Forces of the United States. Not a single flier, however, has as yet been sent for training. And it came to light during the discussions that two of the programs, proposals of the Americans relative to the Air Force, for some reason did not reach Vinnytsya. The participants in the talks therefore agreed to arrange closer direct ties in the future. The future visit of the chief military flier of the U.S. Armed Forces should foster that as well.

Palamarchuk Comments on Open Skies Accord

95UM0303C Kiev NARODNA ARMIYA in Ukrainian 15 Feb 95 p 1

[Article by NARODNA ARMIYA commentator Serhiy Zhurets under the rubric "Details on the Fact": "'Open Skies' Over Ukraine"]

[FBIS Translated Text] The Ministry of Defense, the Ministry of Finance and the Ministry of Foreign Affairs of Ukraine have sent for the consideration of presidential structures a document which discusses all aspects of the fulfillment by our nation of the Open Skies treaty. The Open Skies treaty is expected to be ratified very soon by the Supreme Soviet of Ukraine.

This treaty, signed by Ukraine along with twenty-three European states three years ago, envisages a fundamentally new approach to relations among countries. It permits each of the participating nations to make surveillance flights using special aircraft over the territory of the other participating countries. It is considered that this will strengthen security, since a quite effective opportunity will arise to obtain and verify information, both pertaining to the fulfillment of the treaty restricting conventional arms in Europe and to other, no less important treaties.

The Open Skies treaty, however, has not yet been ratified by the Supreme Soviet of Ukraine. The period of the so-called temporary application of the treaty continues,

during which the countries are resolving technical problems associated with the preparation of agreements for fulfillment.

The process of creating our own "open skies" aircraft, which has to be equipped with both visual and electronic means of gathering and verifying information, is now underway, as was reported by National Committee on Disarmament Issues Deputy Chief and Deputy Chief of the General Staff of the Armed Forces of Ukraine Major-General Anatoliy Palamarchuk. This aircraft is being created within the context of the Comprehensive Program, and Ukraine, as the general emphasized, has every capability of fulfilling it.

The leadership of the National Space Agency of Ukraine, which has received the state order to create this aircraft, however, holds a somewhat different idea. They assert that sufficient funds are lacking for the fulfillment of this quite expensive order, since the cost of the photographic equipment required on that aircraft alone is hundreds of millions of dollars. Only America, Russia and France have the capacity to manufacture that apparatus as well.

The Deputy Chief of the Committee on Arms Control and Disarmament of the Ministry of Foreign Affairs of Ukraine, Volodymyr Belashov, feels in turn that the question of ratifying the treaty should be submitted to the Ukrainian parliament as soon as possible, since one could otherwise expect certain pressure on Ukraine from the other participating nations. The Open Skies treaty will go into full effect, after all, if 20 countries ratify the agreement. The parliaments of seventeen countries have already taken that step, as opposed to Russia, Ukraine and Belarus. As concerns Ukraine directly, it has twice now supported a resolution to extend the temporary rather than permanent effect of this agreement since 1992, when the Open Skies treaty was signed, basing its stance on the lack of capabilities to fulfill the treaty in full.

Cooperation With Russia in Space

95UM0303D Kiev NARODNA ARMIYA in Ukrainian 15 Feb 95 p 1

[Article by NARODNA ARMIYA commentator Serhiy Zhurets under the rubric "Details on the Fact": "Kiev—Moscow: Together in Space?"]

[FBIS Translated Text] Vice Prime Minister and Minister of Defense of Ukraine Valeriy Shmarov and First Deputy Chairman of the Government of the Russian Federation Oleh Soskovets have signed an agreement to collaborate in the realm of creating and operating missile and missile-and-space hardware. The agreement encompasses a quite broad spectrum of areas of interaction between Moscow and Kiev.

The document, concluded for a period of ten years with subsequent extension, envisages the exchange of scientific, technical, military and commercial information, the joint realization of projects and economically promising models of missile and space technology for civil, dual and military uses and the testing, procurement and sale of missile and space hardware and their constituent items, among other things. These areas will be realized in the near future if we take into account the Alfa international station project, for the creation of which 80 space launches will have to be made over five years, including with the use of the Ukrainian Zenit launch vehicles and the experience of the Ukrainian Khartron enterprise.

The main thing in the development of these documents, however, if one takes into account the preamble, was the desire to preserve and develop the scientific, technical and production potential in the missile and space fields with the minimum expenditures on both sides, taking into consideration the division of labor between Ukraine and Russia in the realm of the development, utilization and operation of the missiles and space technologies that took shape during the times of the USSR.

The efficient utilization of state funds for these requirements will have fundamental significance both for Moscow and for Kiev. As concerns Ukraine, the draft State Budget has only ten percent of the requirements for the already approved program for the development of the space field in Ukraine, as is acknowledged by Acting General Director of the NKAU [National Space Agency of Ukraine] Andriy Zhalko-Tytarenko. One consequence of that could be the fact that they will have to cut back or shut down a portion, so to speak, of the elite space production, and freeze the work on hardware that is already almost ready.

Matters are no better in Russia, where the program of manned launches is threatened. The year 1995 could also be the beginning of the complete ruin of the Russian space field, as was admitted by Deputy General Director of the Russian Space Agency Borys Ostroumov. The Russian Space Agency, so as to maintain the sector in a more or less stable state and preserve what already exists today, requires at least 2.2 trillion rubles, but Moscow is planning to direct just half of that amount to the needs of the space realm in the 1995 budget.

The collaboration of the space agencies of Ukraine and Russia provides grounds for cautious optimism, given the aforementioned financial deterioration of both sides.

The consideration and signing of the bilateral agreement, however, has not yet had any effect whatsoever on an improvement in relations between the representatives of the military space programs of both sides.

Radiation-Bio-Chem Protection Directorate Head Interviewed

95UM0301A Kiev NARODNA ARMIYA in Ukrainian 17 Feb 95 pp 1-2

[Interview with Main Directorate for Radiation, Chemical and Biological Protection of the Armed Forces of Ukraine Chief Major-General Viktor Mytrofanovych Lytvak by NARODNA ARMIYA correspondent Colonel Viktor Shvyryov: "The Decision To Rename Our Troops Was Not Made as an End in Itself. Life Itself Suggested It"]

[FBIS Translated Text] *He was born in Zhytomyr Oblast in 1945. After completing secondary school, he was drafted into the army in the chemical troops. He attended the Saratov Military Chemical School as a soldier. He began his officer career as a platoon commander, and then served in the posts of assistant chief of staff of a regiment, and chief of a computation and analysis station. He studied at the Military Academy of Chemical Protection from 1973 through 1977. He was an assistant chief of the chemical service of a PPO [air-defense] corps and chief of staff and commander of a regiment after completing the academy. He was awarded the Order of the Red Star for his participation in cleaning up the consequences of the accident at the Chornobyl AES [nuclear power plant]. From the post of chief of the chemical troops of an army, he entered the General Staff Academy. The next year he headed the chemical troops of the TsGV [Central Group of Forces] and the PrykVO [Carpathian Military District]. He has been chief of the chemical troops of the MO [Ministry of Defense] since December 1993, and as of February of last year has been chief of the Main Directorate for Radiation, Chemical and Biological (RKhB) Protection of the Armed Forces of Ukraine.*

[Shvyryov] Viktor Mytrofanovych, I would like to begin our conversation with a question that is frequently encountered in the mail to NARODNA ARMIYA. The readers of the newspaper, and Junior Sergeant V. Savchuk and Private S. Hureyev in particular, are interested in what prompted the name change of the chemical troops to the troops for radiation, chemical and biological protection.

[Lytvak] The new name given to the former chemical troops a year ago was not an end in itself. The leaders of the Ministry of Defense were impelled to take this step by several circumstances, among which I would cite first the fact that after the signing of the corresponding treaties for nuclear disarmament by Ukraine, the likelihood of the use of weapons of mass destruction against it was significantly reduced. Which brought up the question not only of renaming the troops, but also of changes in the tasks and missions that are assigned to them.

Another, no less important argument in favor of this is the fact that the Armed Forces of Ukraine do not have chemical or bacteriological weapons, or the means of delivering them. And finally, quite a few electric-power plants that operate on nuclear fuel, or enterprises that manufacture fast-acting poisonous substances, are located on our territory. I think there is no need to talk about what could happen in the case of an accident at such facilities. I would only emphasize that the consequences of some of them, if not equivalent, are close to those that would arise from the use of weapons of mass destruction. Their elimination is one of the principal tasks of our troops, and they are training to perform it every day.

There were other factors that, one way or another, compelled a review of the role and purpose of the units and subunits for RKhB protection and their place in the system of support for the combat operations of the troops and the territorial defense of the country. But it can be seen very well, just from those that I have cited, that we could not talk about any effective and purposeful employment of the chemical troops without giving them a new status. The new name, I think, most fully incorporates the aims and tasks that they have now.

[Shvyryov] You have already partially touched on the tasks that the RKhB protection troops face today. It would be interesting to learn about some of the others as well.

[Lytvak] I would single out first among the principal information tasks the task of ascertaining and evaluating the scope of accidents or destruction at facilities that are unsafe in a radiation or chemical regard, and in the case of enemy employment of weapons of mass destruction, their parameters and consequences. We have specially trained subunits for that purpose. Their functions include RKhB protection, radiation and chemical monitoring, the collection and processing of data on the radiation, chemical and biological situation, and the reporting of the results obtained to the commanders, staff, and territorial-defense command-and-control points. That is first.

Second, our troops are also given the task of performing chemical and biological decontamination of firing positions, structures, routes of column advance, and providing security for units and subunits against radiation and chemical substances and biological weapons. They perform this work in conjunction with the engineers, firefighters and other subdivisions of units of the territorial defense.

One specific task of our troops is aerosol countermeasures against enemy reconnaissance and weapons systems. This is achieved by blinding them with aerosols, as well as camouflaging our troops, command-and-control points, water and other crossings, and rear-support facilities by means of employing special aerosols and other means. The arsenal of the latter will in time be supplemented with special radioabsorbent coatings and foams that are very effective in combating radio direction-finding, optical and television means of ground and air/space reconnaissance.

The chemical troops during the Great Patriotic War were traditionally given the task of neutralizing enemy manpower and equipment with incendiary weaponry. That has not changed for us either.

The circle of tasks that face the RKhB protection troops, as we see, is quite broad and diverse. And whichever one of them we take, each is important in its own way and has far-reaching significance, both in providing security for the Armed Forces and for our nation as a whole.

To continue. An analysis of the ecological situation in the country in recent years testifies convincingly to its steady worsening. The harm caused to the environment and the health of people over recent years by the facilities of the Black Sea Fleet, for example, totals *19.4 billion dollars U.S.* That finding was reached by the interagency commission working in Crimea at the behest of the Cabinet of Ministers of Ukraine. And would that that were all we had to talk about. Take a look at the broad spectrum of negative factors affecting the servicemen in the performance of their duties. The noise and vibrations that exceed stipulated norms, the high-frequency electromagnetic fields, the radiation (ionizing and X-ray) emissions, the harmful emissions into the atmosphere from the incomplete combustion of gas, fuels and lubricants etc...

[Shvyryov] Viktor Mytrofanovych, you have touched on quite a serious problem, but tell us what relationship the RKhB protection troops have to it. As far as I know, after all, specialists in quite different structures are concerned with that in the Armed Forces.

[Lytvak] That problem was indeed not one of the functions of our troops until recently. However, as they say, everything moves along, everything changes. The leadership of the Ministry of Defense, proceeding from the interests of the matter, has decided to create a Directorate of Military Ecology in the main directorate that I head. And much has already been done to bring that about—the structure and staffing have been worked out, and a large portion of the necessary specialists have been selected; they will have to work first on a conceptual framework for the ecological security of the Armed Forces. Speaking generally, they will be occupied with study and analysis of the ecological situation in the army, and the determination and incarnation of measures aimed at improving it. The specialists will be relying in this, first and foremost, on the experience that was accumulated during the clean-up of the accident at the Chornobyl AES, enterprises in the chemical industry, rail and water transport and the like.

[Shvyryov] It seems to me, Viktor Mytrofanovych, that we have jumped ahead a bit in our discussion. However, we will talk some more about how the future of the RKhB protection troops looks to you, but now I would like you to tell us what your new directorate has been able to do in its new capacity over the year of its existence.

[Lytvak] When I took over the directorate, it was much smaller in both size and structure than it is now, and was not at all commensurate with the great tasks that our troops were performing. The first business was thus to eliminate this discrepancy, and grant the directorate the status of a main directorate. Its cadre personnel were significantly supplemented, although there are still not enough of them as before. Everything goes back to the fact that we cannot take specialists from the troops, owing to the lack of capital residence permits.

As concerns our work directly, we have worked out virtually all of the standard documents, starting with the program for training the troops and ending with orders for the echelonment of matériel stockpiles. The units and subunits have received a great deal of methodological literature. Notwithstanding the economic and financial difficulties, we were fortunate last year to conduct a series of measures that had as their aim giving the commanders experience in the organization of combat training, and strengthening military discipline and regulation order...

I cannot fail to mention in this regard the central assembly of ranking personnel of the RKhB protection troops that was conducted in the brigade of Colonel Stepan Melnyk. The commanders of units and the chiefs of corps services and up at that time studied the techniques for bringing units and subunits to the various degrees of combat readiness and procedures for the safekeeping of weaponry and equipment, were made familiar with the organization and conduct of company-level tactical-special exercises, took tests and accomplished various types of tasks.

[Shvyryov] It is perhaps difficult to find a military collective in our Armed Forces today that has not undergone structural and staffing changes in recent years—that is, that has not taken the path of quantitative and qualitative changes. To what extent, if it is not a secret, have they affected your troops?

[Lytvak] We received a pretty good material base from the chemical troops of the former Union, and our troops were formed, strictly speaking, on the basis of that. Speaking of weaponry, it essentially remains what it was before. We have not yet received anything new in place of the obsolete models of equipment (which unfortunately become more so with each year). There is no need, I think, to explain why. But things are not all that bad on this score. The work that was started several years ago to create advanced equipment and protective gear, at least, is continuing, and I hope that we will be able to see some of those models in the not-too-distant future. This includes domestic gas masks and our own ecological laboratory, which, incidentally, will be useful to the specialists of the Directorate for Military Ecology as well.

The fact that there are no scientific and technical institutes that are directly engaged in our type of work is troubling. We are forced to "place" all orders at civilian

scientific institutions, which are not always all that willing to undertake their realization. It is much simpler with the enterprises for the production of hardware and weaponry. Suffice it to say that all types of dose-monitoring instruments are manufactured in Ukraine. Their labor collectives, however, are unfortunately being forced to go on unpaid vacations or to switch to the output of products that are not their own, owing to the lack of financing.

Speaking directly about the RKhB protection troops, they have not been able to avoid organizational and structural changes either. There were all sorts of things involved here, but we were fortunate overall to achieve a quite mobile and well-led group of units and subunits, and to preserve their combat readiness at the requisite level. Another of the chief results of the past years is the fact that we have been fortunate to preserve a backbone of highly trained commanders and specialists, and to prevent a drop in the technical sophistication of the troops or their ability to perform successfully the tasks that are assigned to them.

[Shvyryov] Touching on the people, what can you say about the state of affairs in personnel issues in general and, in particular, about which of the military educational institutions is training officers for the RKhB protection troops today? It is no secret, after all, that not a single educational institution was left in Ukraine after the break-up of the former Union to train specialists in the fields you require.

[Lytvak] It would seem, at a time when cutbacks in the Armed Forces continue, somewhat illogical to talk about the fact that the RKhB protection troops are experiencing an acute need for the replenishment of the officer corps. The problem exists nonetheless, and it has existed for a while. As opposed to the other branches of the service—in which, by and large, I understand that it is platoon and company officers that are in short supply—we are typically lacking both junior and senior officers. We are, for example, experiencing great difficulties today in the selection of individuals for the post of corps chief of service. Some are not yet ready to shoulder the great weight of responsibility, while others (this is a colonel's position, by the way) prefer the bird in hand, and serve wherever they have an apartment. Who could have thought, several years ago, that we could run into such a situation today? Although, to be frank, the preconditions for this were observed back then as well. I will refer to just one of them. There was not a single school among the thirty higher educational institutions in Ukraine at that time that was training specialists for the chemical troops. Our countrymen did not try too hard to get into those that were located in Russia (Saratov, Tambov, Kostroma). So it was primarily Russians who completed them, and many of them (having in mind those who were serving in Ukraine) went back to their homeland after the break-up of the former Union.

So as to fill the vacancies in the units somehow, we first organized the retraining of officers in some units from among the missile troops, aircraft technicians, combat engineers and sailors. That step proved to be a timely one. Many of those who expressed a desire to change fields are successfully handling their duties today, and are making no small contribution to the maintenance of combat readiness.

But this approach has not been able to resolve completely the problem of acquisition of these specialists. One way out of this difficult situation has been suggested—we need a higher educational institution, or at least a department at one of them. The choice fell briefly on the Sevastopol Naval Institute [SVMI]. Unfortunately, however, it has not justified our hopes. Suffice it to say that only a few of its two graduating classes came to serve in our troops. The physical plant of that institution, as has been ascertained, did not satisfy very well the requirements that are posed toward the professional training of specialists. Proceeding from all of this, the decision was made to train future officers for the RKhB protection troops at the Kharkiv Military University. They have a better physical plant there, and the opportunities for the thorough training of the cadets are significantly greater.

That institution conducted its first matriculation last year. More than a hundred cadets are studying there today. We intend to transfer those who are at the SVMI today over there. Officers are moreover studying in that department under an academic program. There are not many of them, true, but we will be taking in 30 people this year. Our capabilities are naturally not unlimited. We are taking the following step, however, in the interests of the matter—we will select for training not only officers at the regimental level, but lower as well, including non-specialists. As for the rest, all, as they say, is within the bounds of what is permitted. The missile troops, artillerymen and motorized-riflemen, after all, once studied at the Military Academy. And that is not bad. Having successfully mastered the program of study, they soon became outstanding commanders and specialists.

[Shvyryov] Your stance on this issue cannot fail to impress. But, Viktor Mytrofanovych, those who are studying at the Kharkiv Military University today will not be finishing it today or tomorrow. Years will pass before they come out into the ranks of the RKhB protection troops. That would not matter if those units were not experiencing a need for commanders and specialists. But that is far from the case. How will the vacancies at the platoon, company and battalion commander levels be filled during this time?

[Lytvak] There are no hopeless situations. I have already mentioned the training of specialists from the missile troops and aviation technicians. We will continue that work as well. There is also another way of resolving the personnel problem here—calling back into service the reserve officers who have completed the military departments of institutes in this field. The more so as there are

enough who want to head platoons or hold other primary positions. Authorization is all that is needed for this. And we would very much like to have it...

[Shvyryov] And a final question. The continuing cutbacks in the army, including among your troops, will increase the discrepancies between the increasing volume of tasks and the constantly decreasing manpower and equipment that are allocated to perform them, whether we like it or not. How do you think it will be possible to avoid undesirable consequences?

[Lytvak] There are many ways. I will dwell on those that, in my opinion, are the most realistic and attainable. First, involve the RKhB protection forces from territorial defense in the performance of the tasks of the RKhB protection troops. Second, reorganize the units and subunits for RKhB protection, reconnaissance and ecology with a regard for the new tasks. Third, organize the training of military ecologists and ecological training in the Armed Forces. Fourth, not delaying into the future, we have to be engaged today in equipping the troops with modern technology. Fifth, carry out comprehensive scientific research on the problems of radiation, chemical and biological protection of the troops and the ecological support of the Armed Forces of Ukraine.

[Shvyryov] Thank you for the serious discussion.

Lt-Gen Petrov Discusses Decline in Prestige of Military Service

95UM0302A Kiev NARODNA ARMIYA in Ukrainian 14 Feb 95 pp 1-2

[Interview with Lieutenant-General Vasyl Stepanovych Petrov by Captain Ihor Melnychuk under the rubric "Topical Interview": "The System Is To Blame for the Decline in the Prestige of Military Service"]

[FBIS Translated Text] *Lieutenant-General Vasyl Stepanovych Petrov needs no special introduction; he is a prominent person in Ukraine. He has been in military service since 1939, and now, at age 72, he has a wealth of valuable experience.*

Vasyl Stepanovych commanded artillery subunits and units, was wounded several times and lost both hands in the Great Patriotic War. He took part in combat operations until the end of the war, however. He was twice decorated as a Hero of the Soviet Union. He alone among many has been given a high honor—to remain in military service with the Armed Forces for life.

General Petrov, as a person who has worn the epaulets for more than half a century, has some basis for comparisons. And that prompts him to certain, quite unusual conclusions.

[Melnychuk] Vasyl Stepanovych, it is generally known that the prestige of soldiers, and military service as a whole, was undeniable just a few decades ago. The situation has now changed. Why has that happened?

[Petrov] Servicemen actively enjoyed the general respect of the civilian population before the Great Patriotic War. That continued after the war as well, up until the time that Marshal Zhukov was removed from the position of Minister of Defense.

A military person was shown respect wherever he was encountered—in the theater, in the store. Everyone looked on him with respect, seeing in him a standard of decency, courage and sincerity. Why? An officer was always neatly dressed, well-disciplined, of irreproachable behavior, he was always the first to send the hooligan on his way, to help the weak or those who had suffered misfortune. The military man elicited admiration with his whole bearing and ability to conduct himself.

I cannot say that weak and self-interested people have now replaced the former officers. Most of the people in the army today are decent. But the attitude toward them has changed radically. A whole series of factors is to blame for this, both objective and subjective.

How, for instance, do the bulk of the people perceive a person in military uniform when they know that such phenomena as the notorious "hazing" and abuses on the side by superiors exist in the ranks, when they see the breakdown of the army and drunken officers on the streets? When instances come to light, again and again, that draftees are dying in peacetime? That means that the people who answer for the life of the young people drafted into the service are not fulfilling their official duties. What reason is there to respect them?

The civilian population, for the most part far from the army, gets its ideas of it on the basis of fragmentary information. And that is now primarily of a negative thrust. The overall stereotype is thus formed that they are all the same, if they act that way in their army...

Add to this the police actions that the military carried out in Tbilisi and the Baltics, and are carrying out now in Chechnya. This is not evoking gratitude, and it is not raising their prestige. Sooner the reverse. That is even regardless of the fact that it used to be the Soviet Army, and is now the Russian Army. The people feel that if their military can fire on defenseless people, so can our Ukrainian military.

[Melnychuk] But the blame of the serviceman is relative, to a great extent. He took an oath and is forced to obey, and he did obey. Those who issued these orders are to blame. Perhaps the system that has been turned completely upside down is to blame?

[Petrov] I agree. I was thinking about this. When the USSR existed, the entire ideology was directed toward making the people play the fool. The authorities were particularly occupied with substituting terminology so that no one could understand just what was actually happening.

Look for yourself. They talked about the "friendship of peoples," but that expression was in fact understood to mean the suppression of the national identity of peoples.

The army did not escape that process either.

A general is a military commander, one who leads the troops on the field of battle. But they started giving military ranks to doctors, financial specialists, rear-support personnel. What do these narrowly specialized fields have to do with the battlefield? Or even with conventional military service in peacetime? A mediocre attitude was thereby generated toward all of the generals.

[Melnychuk] Why was that done?

[Petrov] The Soviet ideology saw in the Armed Forces a threat to its own ruling status, which was not limited by any moral or juridical laws. They thus took the path of the legalized discreditation of the very idea of military service.

Here is another example. There were as many colonels as regiments at one time in the army of imperial Russia. A colonel, after all, is the person who leads a regiment on the field of battle. A colonel without a regiment is a joke. Look at how many colonels we have today. There are enough for a hundred armies. Even the police and internal-service troops, and even in other formations, have their own colonels and generals.

Let's go on. They say "the Afghan war" today. That is to diminish those who took part in it, and the Armed Forces themselves. To call a military action in which the entire Afghan people down to the last man took part on one side, and a millionth of the military might of a then-great country on the other, a war is at the least inappropriate. The Soviet-German, and others, were wars, but not the Soviet-Afghan at all.

There are a host of such examples. The Soviet government, in order to devalue the formerly good name of the officer among the people, began stamping out thousands of medals "on the occasion of the latest anniversary," and handing them out to everybody one after another. Officers received combat decorations during peacetime for performing their duties better. The Cross of St. George, meanwhile, used to be awarded in the Russian Army only for true feats on the field of battle. A Knight of St. George was higher than a hero, even though no one went around shouting, there's a hero.

[Melnychuk] All of this certainly promoted somewhat of a breakdown in the moral underpinnings of the officers, one way or another.

[Petrov] Who is going to the military schools today? By and large, young people who have completed ten years of school and do not have the necessary connections to get into the prestigious civilian higher educational institutions. There was nothing of the sort in my time. Only those who were so inclined entered military service.

I once read in an issue of NAUKA I LYUDSTVO that the qualities of people can be divided into ten individual types. Statistical data were given showing that if one took ten youths, only one among them could become a true soldier. Approximately five people will have solid qualities for military service, three would be doubtful and one would be entirely unsuited to army life.

It is thus very important to establish the inclination of a young person toward this profession. It is important to establish moral qualities and a disposition toward military service, and then it becomes comprehensible what this or that candidate is capable of. Will he be able to endure the various types of psychological discomfort connected with the service, for example, the rudeness and peremptoriness of commanders?

A person inclined to military service should express an idea concisely and clearly, phrasing it in such a way that it comes to the attention of the addressee by the shortest possible route, a soldier should reject excessive ambition and act quickly while remembering only his own obligations, not taking into account the fact that this or that order of the commander affects his dignity, the natural human "I." A soldier has to endure patiently all of the problems of his trade.

[Melnychuk] Vasyl Stepanovych, did a hundred percent of the people inclined to the service actually enter the military schools in your youth?

[Petrov] Of course, some cadets were dismissed at the end of the 1940s. But that was a period when high demands were instituted for cadet training. And the main thing is that the physical conditioning of the soldier is moving to the forefront.

The fact is that the Finnish campaign showed the complete unsuitability of the prevailing standards for the physical training of the troops. The demands to ensure the upholding of tactical principles were increased sharply. That not only satisfied the interests of the state and the Ministry of Defense, but was also of use to each of us. Regular 30-kilometer cross-country races hardened the body and spirit. Not all were able to pass these tests, of course. But only the sturdiest remained in the ranks.

All of these measures justified themselves at the start of the Great Patriotic War. When most people were dropping from exhaustion and they didn't care at all whether they got killed or captured, those of us who had adequate physical training stayed on our feet, and the rest came behind us. I doubt that the greater portion of today's graduates of the military schools are ready for such trials. So it is necessary to review the prevailing views of the physical conditioning of the future commanders and senior officers. A physically fit soldier can put a hooligan or rude person in his place without a thought. That is one of the simplest opportunities to restore the prestige of military service.

The approaches of the state authorities toward military service must be fundamentally reviewed, and they must be brought into conformity with the tasks that the troops are called upon to perform. The officers themselves are

moreover obligated to formulate the cult of the soldier, through their everyday behavior and outside it.

This is a subject for detailed study. Each of us, people in the military, should start first of all with ourselves—restoring among the people the prestige of the highly honorable profession of defender of the Fatherland.

[Melnychuk] I have one more question for you, comrade lieutenant-general—what thoughts come to you, a veteran of the Great Patriotic War, in the year when we celebrate the 50th anniversary of Victory?

[Petrov] It seems to me that the celebration of the 50th anniversary of victory is incomprehensible in a number of regards. Our predecessors demonstrated greater farsightedness in past years. They tried to turn the old hostility into friendship. The functions devoted to preparing for the solemn ceremonies return the participants in the war and today's generation to the slogans of the times long past.

The celebration of the 50th anniversary of Victory will scarcely alter the beggarly situation the participants in the Great Patriotic War are in today. Almighty God, it looks like, wished to change the sign of fate and crown the vanquished with the crown of the victors...

[Melnychuk] It is a shame that we have to conclude the interview in a minor key. Wherever you look, that is one of the signs of our contemporary life. Let me express my gratitude for the discussion, and wish you sound health and future successes in the service!

Civil Defense Force Marks Second Anniversary, Progress Reviewed

Hrechaninov Addresses 3 February Meeting

95UM0275A Kiev NARODNA ARMIYA in Ukrainian 8 Feb 95 p 1

[News item from "Inf. NA": "Civil Defense of Ukraine—Two Years"]

[FBIS Translated Text] February makes two years since the adoption of the Law "The Civil Defense of Ukraine" by the Supreme Soviet. A solemn ceremony was held in the hall of the Cabinet of Ministers on the occasion of that date.

Civil Defense [TsO] of Ukraine Chief of Staff Lieutenant-General Viktor Hrechaninov gave a report on the state of affairs in the department. Describing the steps toward the building of the TsO and its activity over the past year, he emphasized the existence of a significant number of extraordinary situations, and posed tasks for the future.

Representatives of the higher authorities addressed words of greeting to the servicemen and employees of the Civil Defense of Ukraine.

A coming issue of the newspaper will describe the event in greater detail.

Civil Defense Work Discussed, Lemish, Palamarchuk Speak

95UM0275B Kiev NARODNA ARMIYA in Ukrainian 9 Feb 95 p 1

[Article by NARODNA ARMIYA correspondent Senior Lieutenant Ruslan Tkachuk: "Their Purpose—To Prevent Emergency Situations"]

[FBIS Translated Text] The troops of the Civil Defense [TsO] of Ukraine recently marked the second anniversary of the adoption of the Law "The Civil Defense of Ukraine" by the Supreme Soviet. The chief of the Main Administration for Defense Issues of the Cabinet of Ministers of Ukraine, Valentin Lemish, and Deputy Chief of the General Staff of the Armed Forces of Ukraine Major-General Anatoliy Palamarchuk addressed words of greeting to the servicemen and veterans during a solemn ceremony devoted to this occasion. Numerous salutatory telegrams were also read, including from abroad.

The results of building the Civil Defense of Ukraine and its activity over the two-year period were summarized by Civil Defense of Ukraine Chief of Staff Lieutenant-General Hrechaninov. He reported that the organization has substantially reformed its structure and administration over that time. Eight units stationed in regions of enhanced risk are currently performing tasks to prevent or clean up the consequences of emergencies of a man-made or ecological nature, and two specialized enterprises are performing preventive work at unsafe sites along with accident-prevention and restoration work. Over 1994 the troops of the Civil Defense localized and extinguished forest fires in Donetsk, Luhansk, Rivne, Zhytomyr, Kiev and Lviv oblasts and the Crimea, and repeatedly cleaned up the consequences of spills of petroleum products in the Transcarpathia region. TsO units performed decontamination operations in the city of Korosten, and supported the exclusion zone of the Chornobyl AES [nuclear-power plant]. They are working today to ensure the water supply for the Republic of Crimea. The pyrotechnical subunits of the TsO destroyed more than two thousand explosive items in the past year, 96 of which were old aerial bombs.

The control of the various TsO echelons is also being improved. Specialists have developed and put into effect a notification system that has the ability to announce the threat of an emergency situation to the entire population of the country in three or four minutes. A broad network of training courses has been created, in which almost 200,000 specialists are trained every year.

The Civil Defense of Ukraine in recent years has significantly expanded its ties with the corresponding structures of the countries of the United Nations, NATO and the European Council. It has been recognized as an

organization that meets its purpose, and that could take an effective part in the performance of joint humanitarian operations.

"The Civil Defense would seem to have almost everything to perform its assigned tasks in full," indicated Lieutenant-General Hrechaninov, "but the existence of a considerable quantity of emergency situations (of which there have been more than three hundred over the last two years) and the results of inspections and exercises have revealed the inability of some territorial and departmental echelons to act effectively in case of emergencies, catastrophes or natural disasters—a whole series of problems in civil defense requires immediate resolution. It should be pointed out, first of all, that the state of the work to avoid emergency situations at all levels is not ensuring the safety of the population, national wealth or the environment."

The Civil Defense staff is working today on a national program for the management of industrial safety and a package of legislation on issues of the organization, financing and logistical support of TsO functions, insurance protection, and the creation of reserves and allocations for use in emergency situations.

Lieutenant-General Viktor Hrechaninov dwelled in his discussion with our correspondent on the problems facing the Civil Defense troops. They are manned at only 57 percent of the planned levels today. The command is nonetheless experiencing difficulties in providing the subunits with the proper gear, food etc. The principal reason for this is insufficient financing. The staff of the TsO is currently working on obtaining extrabudgetary funds in this regard. There are also proposals to give Civil Defense the opportunity of working under self-financing, as is currently practiced in the railroad and engineer troops of the Armed Forces.

Structures similar to the Civil Defense of Ukraine in Russia, Belarus and a number of countries in Eastern Europe have already long since been converted into ministries, which has undoubtedly given them prestige and had a positive impact on the work of their subunits. One can only hope for such a reform here.

And one more detail—in a state that has lived through Chornobyl, as Civil Defense celebrates the anniversary of the adoption of the Edict, a professional holiday to honor them has still not been established...

BALTIC STATES

Military Learning Lessons From Chechnya

954F1218A Moscow SEGODNYA in Russian 1 Feb 95 p 4

[Article by Yuriy Maloveryan, under the "Echo of the Chechen War" heading: "Baltic Countries Draw Conclusions: They Fear the Chechens' Experience Will Serve Them as Well"]

[FBIS Translated Text] Tallin—The military and politicians of the Baltic countries are closely studying and discussing the experience of the Chechen war. Supporters of the concept of "total defense" feel that Chechnya has confirmed the fact that in the event of aggression in a small country everyone must fight, and for this everyone must undergo military training.

Reyn Khelm, the chairman of the Estonian Parliamentary Defense Commission, told journalists back in mid-January that the example of Chechnya "will deal a powerful blow to pacifist moods." The longer the "rebel band groups" hold out, the more powerful this blow will be.

Politicians admit that, according to international law, the Baltic countries and Chechnya cannot strictly be compared. Russia is unlikely to treat sovereign states in the same way it does a territory that formally belongs to it. However, there are still some bases for concern, in particular, the widely repeated myth of the "white tights," which according to many Baltic politicians just goes to show once again whom the Russian elite counts along with the Chechens among their primary enemies. Baltic politicians consider the unsuccessful attempt by the FCS (Federal Counterintelligence Service) to expose the "Lithuanian spy" and its accusation that Estonia is supplying weapons to Chechnya to be testimony to this particular attitude.

Ants Laaneots, a former Soviet tank colonel, spoke out more directly than anyone else two weeks ago. He stated that "the violent scenario that Russia has employed in Chechnya" could be used against Estonia at any time and in practically the exact same form. Laaneots pointed out that the Finns applied the same tactics that the Chechens are using in the Winter War: Everyone fought everywhere against the aggressor on the territory he had seized. The Baltic countries have always been inspired by the example of Finland, which was able to retain its independence in the years 1939-40. Estonia must be prepared for the same type of war, according to Colonel Laaneots.

Until now, in constructing scenarios of resistance to a possible attempt by Moscow to return, Baltic strategists have put their trust primarily in the concept that Western journalists have christened the "CNN defense." This involves resisting until CNN and the other mass media are able to bring the world community to its feet and that community renders assistance. Now, looking at Chechnya, the military is more and more inclined to the idea that one must count mainly on one's own forces.

Those analyzing Chechnya's experience place their main emphasis on the need to support and develop the system of popular militias, which exist in all three countries. Moreover, they argue for the need for universal military service, rather than professional armies.

Last week in Riga there was a meeting for delegations of the general staffs of the Baltic countries at which the

lessons of the Chechen war in particular were discussed. Without going into details, participants in the meeting told journalists that they had "thoroughly analyzed the military and political aspects of the invasion of Chechnya." In a BNS interview, Enn Tupp, Estonia's defense minister, assured journalists that "for now" his department was making its analyses on the basis of press reports.

Apart from geography, national traditions, and other important things, the Baltic nations also differ from Chechnya in the "trifle" of weapons. There is not a single tank or a single fighter jet in all three countries. There are only a few unarmed warships donated by northern European countries. Moreover, not one of the countries produces its own armaments or military supplies. The Baltic countries hope to fill these gaps, however. As we know, Estonia has bought Israeli weapons—small arms and anti-aircraft and anti-tank weapons. Latvia and Lithuania are still making do with what Warsaw bloc equipment there was. They have armored transport vehicles. The problem is "serious" military equipment, for which there is still not enough money.

The Baltic countries need the usual equipment mostly not even for—theoretical—war with Russia, but in order to enter the European military blocs—NATO and ZES [Western European Union]. As we know, NATO is ready in principle to expand to the east, but it does not want to take into its ranks obvious weaklings as opposed to equal partners. Chris Donnelly, adviser to NATO's general secretary, expressed this thought succinctly last week in Riga. In his opinion, the Baltic countries should be working so that when NATO accepts them, it "becomes three members stronger, not weaker."

Virtually all political forces in the Baltic countries agree that the chief guarantee of security for the three countries will be their entry into European organizations—the EC (European Community) and NATO. The fact that Moscow still considers people's lives and its partners' opinion to be worth nothing is convincing the Baltic nations increasingly of the need to "hide" under Europe's wing.

ARMS TRADE

MILITARY PARADE Editor Responds to ROSSIYSKAYA GAZETA Criticism

95UM0290B Moscow NEZAVISIMOYE VOYENNOYE OBOZRENIYE (Supplement to NEZAVISIMAYA GAZETA) in Russian No 1, Feb 1995 p 7

[Interview of A. Matsenov, Ye. Shashkov and V. Bondarenko by Andrey Vaganov, place and time not given: "'MILITARY PARADE' Attacks"; "And as It's Publishers Believe, Competitors in the West Don't Like It"; first paragraph is editor's lead.]

[FBIS Translated Text] An article on MILITARY PARADE, published on January 28 of this year in ROSSIYSKAYA GAZETA is entitled "Why Must a Journal about Innovations in the Military Technology of Russia Be Published by a U.S. Citizen for CIA Money?" I decided to obtain an answer directly from the U.S. citizen in question, one of the co-founders of the journal MILITARY PARADE and president of the corporation ZIGZAG VENTURE GROUP, Viktor Bondarenko. Also participating in our talk were the general director of the Russian-American Military-Industrial Company MILITARE [sic] PARADE, Ltd., Aleksandr Matsenov and the editor-in-chief of the journal, Yevgeniy Shashkov.

[Vaganov] The author of the article in "RG" claims that the "leadership of the journal, in publishing materials about super-modern military technology, is trading in military secrets.

[Matsenov] We categorically maintain that we are not trading in any secrets. The journal operates in accordance with the press law. One article of this law precisely prescribes that the author bears responsibility for the presented material.

[Shashkov] Our authors are general designers of military equipment. In a year more than 150 general designers and general directors of major enterprises of the military industrial complex have already appeared on the pages of our journal. In MILITARY PARADE there are practically no articles by associates of the journal.

[Matsenov] In the military-industrial complex there are specific normative documents which regulate the possibility and terms of publication of articles by associates of the military industrial complex in the open press. All design bureaus of enterprises of the military industrial complex operate in accordance with these documents. Each such article undergoes expert evaluation at the enterprise. And only after this is its publication permitted or forbidden.

Recently, although we do not have the right, at our own initiative we have begun to require findings of the authors like: such-and-such article, intended for publication in the journal MILITARY PARADE, does not contain any secret information. Although, I repeat, we do not have the right to demand these findings. This is a violation. By our own initiative, starting in September of last year, we passed all articles through the Department for Protection of Secrets of the General Staff, where these articles were examined from the standpoint of possible revelation of data not intended for the press. All articles of the journal were checked in this department.

[Bondarenko] Although censorship has been abolished, we essentially have introduced it voluntarily for our publication.

There are publications (I won't name them) operating in Russia for three years now which have a staff of specialists, collect information, photograph it, and send it over their channels, and not once in three years has the question of the legality of their actions been raised. One of them for example is an official NATO publication.

[Vaganov] In this sense, one can agree with the author of the "RG" article. State secrets and interests have always existed, and you can't give out information which constitutes state interests to all those who desire it, without monitoring.

[Bondarenko] Of course, but the whole point is that we are not engaged in the collection of such information. We receive an article and our task is to bring it to the point of its realization in the form of a press product.

[Shashkov] In MILITARY PARADE we constantly run regional special editions: Nizhnyy Novgorod, Yekaterinburg, Perm etc. How are these editions made? We go to the leadership of the regions, to the heads of administration, and they, at their discretion, and on the basis of the terms of preservation of a particular state secret propose a list of installations which we can use for the special edition. We only offer to publish, and the content is determined by the regions themselves.

[Vaganov] Viktor, evidently "VP" is not a profitable enterprise for you.

[Bondarenko] We began making a profit with the third issue of MILITARY PARADE. But we are now investing all profit in expansion of production: we are strengthening our computer base, and have purchased several motor vehicles. Now we are preparing a six-volume catalog "Russian Weapons." This is the first publication of its kind and a very large project—1 million 200 thousand dollars. It will show all the export potential of Russia.

[Vaganov] Nonetheless, the title of the article in "RG" is absolutely unequivocal: "Why Must a Journal about Innovations in the Military Technology of Russia Be Published by a U.S. Citizen for CIA Money?"

[Bondarenko] First of all, why would the CIA all of a sudden have an interest in the marketing of Russian military equipment? There is reverse pressure, for example on Latin American countries, not to purchase Russian weapons. And no one makes a secret of it; it is a struggle for markets.

[Matsenov] And as a result of the appearance of MILITARY PARADE, interest in Russian weapons in the world has grown greatly.

[Bondarenko] This is felt even in the subscriptions: The Ministry of Defense of England, 5 issues, Abu Dhabi, the Malaysian Defense Ministry, Singapore. Our subscribers are at the highest level.

[Matsenov] And not only from subscriptions. We have now created a consulting group in the journal because inquiries in response to our articles have poured in, asking that we put them in touch with such-and-such producers of Russian military equipment for the purpose of talks on cooperation.

[Bondarenko] And to the author of the article in "RG," if he wants to publish another journal like "VP," I can only advise him to convince the West German intelligence service, for example, to finance this publication. If he does, he might be awarded a medal.

[Shashkov] Our journal, besides, is conceptually structured on the principle of comparative analysis. We strive in each article to show the advantages of Russian equipment over western. Would this be advantageous to western weapons producers, that such articles appeared. Where is the logic?

[Vaganov] One more specific accusation: "There is a supposition that secrets go to the western special services not only from the pages of the journal," i.e. someone in the journal is accused of actual illegal weapons trading.

[Bondarenko] As a U.S. citizen, I am the only foreigner in the journal. We have nine former soldiers in the rank of colonel working for us. One of them, for example, was a deputy chairman of the union commission on the military industrial complex. If we had been able to recruit all of them so quickly and easily, Russia would already have nothing with which to defend herself. When we were just pushing the idea of the journal, it was not for nothing that we received agreement from the Deputy Minister of Defense of the RF, Andrey Kokoshin, from the Chairman of the FSK Sergey Stepashin, from Oleg Soskovets and dozens of other authorities. We were supported by the Minister of Foreign Economic Ties, Oleg Davydov. Here is a document with the instructions of Aleksandr Shokhin, while still vice-premier: "I ask that you find a solution to the question with allowance for the special importance of the journal MILITARY PARADE to the Russian military-industrial complex." A letter came addressed to me from the Analytical Center of the Russian president: "The group for analysis of problems of the armed forces and the military industrial complex of Russia of the Analytical Center in the office of the RF president fully supports the journal MILITARY PARADE and recommends it for broader dissemination here in the country and abroad." Signed, A.I. Ladimorov, 11-30-94. I stress that the letter came addressed to me, to a foreign citizen, and at the initiative of its author. (I was shown all the enumerated documents with endorsements—A.V.).

But I am in a dual position. I am a businessman whose office is on 5th Avenue in New York, I can simply call a press conference and journalists from the NEW YORK TIMES and other solid publications will come to it. And what am I to tell them, that the command has come from the West to suppress this journal, the mouthpiece of the Russian military industrial complex?

[Shashkov] In Russia now there is a paradoxical situation: all journals on military-technical policy are classified! We essentially are the only specialized publication which supports the military industrial complex of the fatherland.

[Bondarenko] We have received anonymous letters containing direct threats of physical destruction.

[Vaganov] What specifically are your functions in the journal, Viktor?

[Bondarenko] To receive a diskette with the articles of the next issue, pay for printing of the issue in Italy, where our journal is printed, and deliver the printing to Russia. I am one of the co-founders of this Russian publication. I stress this last circumstance especially. All articles of "RG" directed against us contain the same "gentleman's kit": thieves within the law; exporting secrets; exporting weapons; CIA, Mossad. The foreign journal MILITARY PARADE is not a foreign journal, it is Russian, registered here.

[Vaganov] Do you intend to sue?

[Bondarenko] We have already filed a civil suit. But after the last, third article in "RG," we consulted with jurists regarding the possibility of instituting criminal proceedings for deliberate slander. All the associates of our journal, people who served 20 or 30 years in the army, are outraged. They are virtually being accused of treason to the Motherland.

Intelligent people understand what is going on. They see that some want to slam shut the window to Europe that has opened up for them. This is persecution of our journal, malicious slander. Someone just can't resist.

Articles like that in "RG" do objective harm not only to my business. "RG" is an organ of official structures, and all of its actions do not go unnoticed. You see, now many Russian enterprises of the military-industrial complex are seeking to obtain joint projects with major foreign companies. And at a minimum small and medium-sized western companies are now going to think twice about whether it is worth while to go looking for adventures in Russia. I am certain that many of them will back off, will be scared away.

[Matsenov] But for all that, the opinion of western experts is unequivocal: MILITARY PARADE is the best journal in the world devoted to military technology. Even though just on the Near East the U.S. publishes seven journals on this topic. All Russian weapons producers confirm with one voice that they need MILITARY PARADE. Then the question arises of for whom is it advantageous to close such a publication. For whom is it a thorn in the side?

[Bondarenko] We are nearly certain that we know where the command to slander our publication came from. I can say only one thing: it is in the interest of the western military industrial complex to finally squeeze Russia out of the weapons market.

MoD Arms Export Official Zlenko Interviewed

95UM0308A Moscow KRASNAYA ZVEZDA in Russian 25 Feb 95 p 3

[Interview with Lt-Gen Nikolay Nikolayevich Zlenko, deputy chief of the Main Directorate for International Military Cooperation of the Ministry of Defense, by Valentin Rudenko under "Military Technical Cooperation" rubric: "The Interests of National Security Are Above Everything: This Is the Principle That the Ministry of Defense of the Russian Federation Is Guided by in Deciding the Question of the Delivery of Particular Types of Arms to Other Countries"]

[FBIS Translated Text] **From the KRASNAYA ZVEZDA file: Lt-Gen Nikolay Nikolayevich Zlenko was born on Victory Day, 9 May 1945, into the family of a serviceman. He served in missile units in Turkestan and Central Asian military districts. From 1980 through 1992, he was sent abroad, where he worked in the representation of our country at the United Nations in New York and subsequently as a military, air force, and naval attache in Moscow and as a military attache in the United States. Since 1992 he has been deputy chief of the Main Directorate for International Military Cooperation. He has a perfect command of the English and Spanish languages.**

[Rudenko] Nikolay Nikolayevich, the system and forms of military-technical cooperation have been improved continually in recent years. New structures are being created and new normative acts are being passed. But what is changing in this respect in the work of the Ministry of Defense as one of the subjects of the military-industrial complex?

[Zlenko] The role of the Ministry of Defense in the implementation of military-technical cooperation is comprehensive and extremely responsible. I do not by any means want to cast a shadow on the patriotic feelings of the producers of arms and the employees of the state company "Rosvooruzheniye" but still a priority for them is the receipt of profit, which then goes to the needs of the state and also to paying wages, restoring production, performing scientific research and experimental design work, and creating even more competitive export models of arms.

The military department is less concerned about profit. For us the main thing is that possible armed conflicts do not result in Russian weapons being used against us or our allies and the disturbance of the existing balance of power in some region or other. In short, that the interests of the national security of Russia do not suffer.

In dealing with strategic tasks having to do with developing conceptual questions in military-technical cooperation and determining how much armament can be sold to whom and under what conditions, the Ministry of Defense also resolves many purely practical tasks that annually yield an income of about $50-70 million for the state. It is a matter of sending specialists to provide assistance in the operation and combat application of delivered arms, their repair and modernization directly on site and in Russia, and training specialists at military higher educational institutions. Let me give you just one figure—about 256,000 foreign servicemen have been trained at higher military institutions of our country in past years. Many of them have now become ministers of defense and even presidents.

[Rudenko] Sometimes the Ministry of Defense is accused of almost artificially restraining the advance of Russian weapons to the world market. Is this true?

[Zlenko] These accusations are absolutely groundless. If we sometimes do not permit the delivery of some type or other of arms for export, again this is exclusively for reasons—I am not afraid of this strong word—of the national security of the state. Not a single cartridge, not to mention complex arms systems, can be sold without the corresponding authorization of the president, government, and, naturally, Ministry of Defense. By the way, this is what all civilized countries do.

I must note that a number of enterprises sometimes offer the most up-to-date developments for export delivery whose production has not been fully worked out. Of course we cannot give the "green light" to such developments. In the process of examining applications, as a rule, only 50-60 percent of the models of arms presented receive the "okay."

There has nevertheless been a certain leak of military technologies. And, as a rule, this takes place legally, primarily through various joint ventures. Among the countries that engage in intellectual piracy one must name above all the United States, China, and several others. By the way, they do not even hide this. In any delegation that comes to us, there are fine experts on various kinds of arms and technology. And if a decision is made to acquire this technology, then massive efforts are made in every area—political, military, industrial, etc.

One of the tasks of the Ministry of Defense is precisely to limit to the extent possible the illegal export of technologies and not to allow the delivery of individual arms to other countries and also to give legitimacy to military-technical cooperation, for any agreement on military-technical cooperation regulates relations between countries in this area.

[Rudenko] Recently, in connection with the events in Chechnya, articles have come out whose authors subject the combat capabilities, reliability, and viability of Russian systems of arms to doubt. True, they thereby fail to mention that Dudayev's warriors are not using foreign systems but our own Russian systems against the federal troops.

[Zlenko] You correctly noted that Russian arms are being used on both sides. Some of them were created for offensive purposes and others to protect against these arms. Let us take, for example, the T-72 and T-80 tanks. They are splendid vehicles. But today our defense design bureaus have developed no less splendid antitank weapons, which are intended to destroy the best tanks in the world. I think that there is no need to be a tank driver to understand the simple truth that if a tank is hit from a distance of 8 to 10 meters, and especially in the side armor or engine room, no system can survive. Unfortunately, some journalists who are covering the operation in Chechnya do not understand this. Or they do not want to understand it.

As for the competitiveness of arms, it is not determined, as you know, only by purely combat qualities of some model or other. According to the information of the international organization "European Forum on Management Problems" (with headquarters in Geneva), it is necessary to consider about 340 factors to determine the degree of competitiveness of a commodity. Not the least role in this is played by such factors as the economic potential and rates of growth of the state's economy, efficiency of industrial production, level of development of science and technology, participation in the international division of labor, etc.

Taking into account these factors as well, the greatest export potential, in our view, belongs to the aircraft Mig-29, Mig-31, and Su-27, the Il-78M air tankers, the combat helicopters Mi-28, Ka-50, and Mi-35, the transport helicopters Mi-8, Mi-17, and Mi-26, the antiaircraft systems S-300PMU-1 and S-300V, the antiaircraft complexes "Buk," "Tor-1M" and "Igla," the "Tunguska" antiaircraft gun and missile complex, the multiple rocket launchers "Smerch" and "Uragan," the tanks T-72, T-80, and T-90, the infantry fighting vehicles BMP-2 and BMP-3, automated command and control systems, systems for electronic warfare and communications, small arms, and other arms.

[Rudenko] It is a matter of the competitiveness of arms but you must agree that recently we have also encountered the problem of competition between Russian manufacturers of output of the same type.

[Zlenko] Yes, it is really so. Today it has almost become the norm that when producers or developers of analogous weapons find themselves abroad they take delight in telling about the shortcomings and weaknesses of the output of their colleagues. And the result is that the common cause suffers. In a number of economically developed countries, a special law prohibits the presentation of one's own goods in the world market while denigrating the output of other producers in that country. It appears that it would not hurt for us to have such a law as well.

[Rudenko] Quite soon our arms will be presented at the authoritative international arms show-exhibition in Abu Dhabi (United Arab Emirates). What will we demonstrate there? To what extent have the lessons of the last exhibition been considered?

[Zlenko] The exhibition of arms and military hardware in the United Arab Emirates is one of the largest specialized exhibitions. We participated in it for the first time in 1993, presenting a very broad arsenal of arms systems—about 400 exhibits. And many models were demonstrated not only on a static stand but also on the test range, where they performed combat firing. All of this contributed to increased interest in our arms by the countries of the Persian Gulf.

[Rudenko] At the time of one of the press conferences held in Abu Dhabi, Minister of Defense Gen. Pavel Grachev declared that we will bring back about $10 billion from this exhibition. How nearly was this forecast realized?

[Zlenko] As you know, there was a lot of speculation about this statement in the press but the figure that the minister of defense named was not pulled out of the air. It was precisely for this sum that we received official requests for the purchase of our military hardware on the eve of and in the course of the exhibition. Of course this figure was adjusted in the process of negotiations. With some we did not agree on the price and others were not satisfied with the terms of the contract. But believe me, the sum that our country actually received was not small. The United Arab Emirates bought many infantry fighting vehicles from us and also intends to buy our arms. After this exhibition, we signed a contract for the delivery of fighting vehicles with "Smerch" multiple rocket launchers and infantry fighting vehicles BMP-3 to Kuwait. There are also requests from other countries. There has been a noticeable increase in deliveries of arms and military hardware, including to China and India. So it can be said with certainty that with are satisfied with the results of the past exhibition.

The present exhibition will be no worse than the last in terms of the number of visitors. The Russian part of the exhibition is being organized by the state company "Rosvooruzheniye" with the active participation of the State Committee for the Defense Industry of the Russian Federation and the Ministry of Defense. In particular, we are singling out the "MstaS" self-propelled gun, the "Tunguska" antiaircraft gun and missile complex, the tanks T-80U and T-80UK, electronic warfare systems, and other arms. A number of models will be demonstrated for the first time. Just as at the previous exhibition, it is planned to carry out combat firing.

[Rudenko] What, in your view, should be done to improve the competitiveness of Russian weapons in the world market even further?

[Zlenko] Above all bring together and coordinate the work of all structures that are somehow involved in carrying out military-technical cooperation and bring them in line with the normative-legal base. In the

weapons trade, it is not the possibilities of the producer (we sell what we produce) but the needs of the market that should be determinative. [We must] offer to foreign customers not only military hardware but also comprehensive services for the establishment of systems for air defense, communications, electronic warfare, and others. We must develop mechanisms for the control of the unsanctioned transfer of weapons delivered to third countries from Russia. An entire complex of measures for servicing during and after the warranty must be placed on the developing enterprises and arms manufacturers and maximum use must be made of the possibilities of Russian military representatives abroad to study the requirements of foreign armies for arms. There must be a fundamental improvement in the quality of advertising of arms systems in the Russian and foreign press and also during the course of exhibitions and air shows. I named only some of the problems. In reality there are significantly more of them.

Russian Interests in Near East Arms Trade

95UM0290A Moscow NEZAVISIMOYE VOYENNOYE OBOZRENIYE (Supplement to NEZAVISIMAYA GAZETA) in Russian No 1, Feb 1995 p 1

[Article by Aleksandr Ivanov: "Political Commodity"; "Russia Tries To Hold Onto the Weapons Market in the Near East"; under the rubric "Weapons"]

[FBIS Translated Text] In Arab countries of the Persian Gulf, the discussions provoked by Russia's intention to cooperate with Iran in the field of nuclear power engineering never abate. At the same time, the concern of Arab states in connection with the sale of Russian submarines to Iran a year ago does not abate either. While in Abu Dhabi recently, the Minister of Defense of Great Britain Malcom Rifkind stated that "this deal with Russia may exert a destabilizing effect in the region."

It would appear that such fears of Iran's Arab neighbors and of the West have not troubled Russia for some time—she intends to hold on tightly to her positions in the weapons market of the Islamic Republic. Just as [she intends] to return to the markets of other Arab countries of this region, particularly Syria. This is indicated also by the results of the annual report of the International Institute of Strategic Research in London. According to data available to the authors, Damascus has allegedly ordered the delivery of 50 MiG-29 fighters from Moscow.

However the estimates of analysts of the London institute put forward in the report contradict Rifkind's above statement. In their opinion, in particular, despite the significant volumes of weapons shipments to the region of the Persian Gulf, the prevailing balance of forces between the traditionally hostile parties continues here.

In particular Kuwait has become a major client, having concluded deals with Russia for delivery of air defense systems worth around 700 million dollars, and with Great Britain for the delivery of portable missile systems of the "ground-to-air" type. Jordan also, in its orders to the U.S., is putting the accent on air defense weapons. The armed forces of the United Arab Emirates also actively armed last year—numerically they grew to four thousand men. Eighty-five new BMP-3 armored vehicles were put into service, added to the 240 units of this type previously purchased from Russia. After the exhibition of weapons in Abu Dhabi, a deal was closed with France for the 1995 delivery of 436 "Le Clerc" tanks. But the most promising market for foreign suppliers of weapons in the region is still Saudi Arabia. In coming years Riyadh intends to spend on the order of 20 billion dollars on arms purchases.

According to assessments of international experts, a large part of the contracts for purchases of arms will be signed by Arab countries of the Persian Gulf in the first half of this year, during and soon after the exhibition of modern weaponry IDEX '95 being prepared for March in Abu Dhabi.

Russian defense industrialists intend to take a very active part in IDEX '95. One delegation of their representatives after another is arriving in Abu Dhabi. But one should always remember that in contrast to other commodities, the weapons trade is also politics.

DEFENSE INDUSTRY & CONVERSION

Survey of Defense Industry Jan 95 Performance

95UM0311A Moscow KRASNAYA ZVEZDA in Russian 25 Feb 95 p 3

[Article by Vitaliy Vitebskiy, chief of the Goskomoboronprom [State Committee on the Defense Industry] Main Administration of Information and Statistics, under the rubric: "Statistics": "The Military-Industrial Complex in January"]

[FBIS Translated Text]

Production of Products According to the State Committee's Main Administrations in January 1995 (in comparable prices in percentages)

Sector	Percentage
AP [Motor Vehicle Industry]	76.6
BP [Military Industry]	79.3
PV [not further identified]	99.1
PSS [Communications System Industry]	64.0
RP [Radio Industry]	61.1
RKT [Rocket Technology]	88.8
SP [Shipbuilding Industry]	110.5
EP [Electronics Industry]	75.2

INDUSTRY

According to operational information, the volume of industrial production (in comparable prices) in January 1995 was reduced by 17.3 percent in contrast to the corresponding period last year.

In January 1995, the volume of production of industrial products in actual prices exceeded similar indicators of last year by a factor of 2.49.

The greatest reduction of volumes of production in January 1995 is in the main administrations of the radio industry (38.9 percent) and in the communications system industry (36.0 percent).

Civilian Production

The volume of production of civilian products in comparable prices was reduced by 18.6 percent in January 1995 in contrast to January 1994.

The volume of production of civilian products in actual prices in January 1995 exceeded the January 1994 level by a factor of 2.36.

Military Production

The volume of production of military products in comparable prices was reduced by 12.6 percent in January 1995 in contrast to January 1994.

The volume of production of military products in actual prices in January 1995 exceeded the January 1994 level by a factor of 2.94.

LABOR INDICATORS

Strength. In December 1994 in contrast to December 1993, average staff strength of workers on the whole, according to the State Committee, was reduced by 16.7 percent (in industry—by 17.9 percent and of them the strength of industrial-production personnel was reduced by 17.4 percent).

Wages. According to the Committee, the average monthly wage of one worker in December 1994 totaled 243,500 rubles (for information: in the national economy—R354,200, in industry—R378,600, and machine-building—R266,700).

The lowest wage level is at electronic industry enterprises (R162,900).

The highest wage level is at shipbuilding industry enterprises (R334,000).

We must bear in mind that a direct comparison should not be conducted of the results of January 1995 with the results of 1994 and with the months that are part of it because, as of January 1, 1995, all of the accounting and, correspondingly, base indicators have changed as a result of the transfer of a number of enterprises from the State Committee for the Defense Industry to the RKA [Russian Space Agency].

While conducting the results of the first quarter of 1995, the base indicators of 1994 will be recalculated in accordance with the actual composition of the enterprises.

Industry Conversion Progress Explored, Civilian Products Noted

Large Amount of Obsolete Munitions for Disposal

95UM0278A Kiev NARODNA ARMIYA in Ukrainian 21 Jan 95 p 2

[Article by Serhiy Balykov of UKRINFORM under the rubric "On the Topic of the Day": "A Plant for 'Rusty Death'"]

[FBIS Translated Text] There are more than 28,000 railcars with functionally and physically obsolete munitions just on the rail sidings of Ukrainian munitions storage bases alone. Several million pieces of ordnance were left in Ukraine as a legacy of World War II, and a considerable portion came after the disbanding of the forces outside the boundaries of our country. These bases today are one and a half to two times overloaded, and the quality level of their storage is not up to standards.

This information was cited during the opening of a large-scale joint Ukrainian-American venture for the recovery of ordnance, the first in the world, at one of the largest storage areas for artillery shells in Ukraine, located in Ichnya. Technology developed by the American company of Alliant Techsystems—one of the foreign partners in the Alliant Kiev joint-stock company, which is engaged in demilitarization as well as the recovery of ordnance in Ukraine—is being used at this unique production facility. It provides for the separation of the warheads of the shells from the casings using the method of high-speed liquid-jet cutting under pressure. Modern modules for the processing of the shells, the reprocessing of the explosives, and the removal of the fuzes and primer caps, as well as assessing the possibility of the impact on the natural environment and neutralizing it, have also been installed in Ichnya. Ukraine has allocated production space, manpower and shells for this project, while the Western partners are contributing the new technology and funding. The Western investment is more than nine million dollars so far. The Americans, and in particular company Vice President Kenneth Jenson, feel that the enterprise will reach full capacity as early as this year, and will be supplying a large quantity of valuable metals, explosives and other by-products of the demilitarization process to the world market. Some 220,000 tonnes of munitions will first be recovered at Ichnya. Some 1,500 large-caliber shells—close to 4—5 tonnes—will be dismantled and processed here every day, using methods that are safe for the environment. This is particularly important to Ukraine, which has ended up with thousands of tonnes of weaponry that was produced during the Cold War as its legacy from the

Soviet Army, emphasized K. Jenson. He said the construction of another such enterprise is planned in Ukraine, in order to handle the large volume of work on demilitarization.

The Americans do not hide the fact that they are counting on receiving a good profit with the development of production. The Ukrainians have guaranteed them 49 percent of it. Our partners are planning to increase sales of scrap brass, copper, aluminum and ferrous metals, as well as paints, fertilizers and other products that could be obtained after the plasma reprocessing of the powders and explosives. Sales of those products, according to preliminary calculations, could bring in more than 100 million dollars in the next five years. The Ichnya project, in which the American OPIC corporation for private foreign investments has already provided insurance against political risk of almost 20 million dollars, is also creating a thousand jobs in Ukraine and providing for the acquisition of 32 million dollars in Ukrainian goods and services.

The chief of production at the new enterprise, Pavlo Tarasevych, however, feels that the recovery process for the shells is expensive and unprofitable. Vice Prime Minister of Ukraine and Minister of Defense Valeriy Shmarov holds the same opinion.

All of this is being done for the good of the Ukrainian people and for the sake of a safe future for them, indicated President of Ukraine Leonid Kuchma, who took part in the opening ceremony at the facility. The head of state devoted particular attention to the economic, technical and social aspects of the problem of salvaging the ordnance. He took an interest in the expediency, efficiency and safety of production, was familiarized with the process of recovering the munitions and the work of the process modules, and spoke with American and domestic specialists, the inhabitants of the military compound and with journalists.

Munitions Salvage in Chernihiv Oblast

95UM0278B Kiev NARODNA ARMIYA in Ukrainian 7 Feb 95 p 1

[Unattributed news item: "Munitions Being Recovered"]

[FBIS Translated Text] The first large-scale enterprise for the recovery of ordnance in the world has opened in Chernihiv Oblast. It can process 1,500 large-caliber shells (approximately 4—5 tonnes) a day.

The new enterprise was organized on the basis of one of the largest artillery-shell storage facilities in Ukraine. The recovery project was developed by the American company of Alliant Techsystems.

The latest equipment for the rapid separation of the warhead from the shell casing, using a liquid jet fed in under high pressure, has been installed there. Its start-up will provide the enterprise with the opportunity to reach full capacity as early as this year. This will provide Ukraine with the opportunity of increasing sales in world markets of the metals, explosives and other by-products from the process of demilitarization.

Ivano-Frankivsk Boiler Plant

95UM0278C Kiev NARODNA ARMIYA in Ukrainian 31 Jan 95 p 1

[Unattributed news item: "The 'Secret' Product—A Boiler"]

[FBIS Translated Text] The Ivano-Frankivsk Boiler-Welding Plant has begun filling an order for the Ministry of Defense of Ukraine. They are manufacturing 500 steam cookers from stainless steel for the cooking of food in soldiers' mess halls and sailors' galleys. This "defense" product used to be produced in St. Petersburg. The plant supplies various sizes of steam cookers, from 140 to 400 liters.

Donbass Region Conversion Efforts

95UM0278D Kiev NARODNA ARMIYA in Ukrainian 31 Jan 95 p 1

[Unattributed news item: "The 'Defense Industry'—Under Market Conditions"]

[FBIS Translated Text] The former defense enterprises of the Donbass are increasing their market output. It has gotten warmer for those residents of the Donetsk region to whose buildings the Zametil has come. That is the name for household spin dryer that the former Tochmash defense enterprise has begun to put out.

Yesterday's defense enterprises have now also mastered the output of the Donchanka washing machine, various parts and tooling for petroleum workers, dishes and toys. Now comes another innovation—a household spin dryer for drying clothes. The unit is handy and compact. The quality of the drying is excellent. Tochmash will be putting out the first 1,000 domestic appliances by the end of the year.

The Temp association unites enterprises that have taken the route of conversion. Today they produce refrigerators and gas ovens, medical instruments and video gear. Twenty enterprises are part of the association. A new model of a vacuum cleaner, satellite antennas and fire alarms are being prepared for production. Great work lies ahead, and has already been started.

Russian, Ukrainian Defense Industry Leaders Meet in Zaporozhye

95UM0283A Moscow IZVESTIYA in Russian 21 Feb 95 p 2

[Article by Sergey Leskov: "If We Are Not Together, We Won't Exist"]

[FBIS Translated Text] When a fitters chorus of the Zaporozhye Plant "Motor-Sich" started up the song of Hetman Sagaydachnyy and theatrically waved their curved sabers, the leaders of the Russian defense enterprises stepped back further from the presentation. But not without a smile, for everyone was jokingly playing along with the performers, because before this, at a meeting of the leadership of the military industrial complex of the two countries, full mutual understanding had reigned, and no opinion other than that of unification had been uttered.

The most important thing for the branch, and a sensational report, was that a decision had been made to organize the financial-industrial group [FPG] "Mezhdunarodnyye aviamotory" [International Aviation Motors], which had been joined by 50(1) enterprises of defense complexes of Russia and Ukraine. This agreement has already been signed by heads of government, and now members of the FPG are receiving a million benefits. The VAT [value-added tax] for interbranch items in the production chain has been cancelled within the group, the debts of the enterprises nullified, the customs duties abolished. The group will pursue a uniform investment policy and will be able to concentrate its resources in priority areas, from it need not expect a fast profit. The total membership of the FPG is 140 thousand people in Russia and 75 thousand in Ukraine. The group includes not only aviation giants, but also metallurgical plants, banks, insurance companies, and enterprises of light industry (for obtaining "quick" money).

Isn't this a restoration of the union ministry? Call it what you will, but only a leader with suicidal tendencies could fail to take this step. Historically in the aviation industry, and in the entire military-industrial complex, Russian enterprises (more than 500) and Ukrainian enterprises (also a lot, 300) have worked in close cooperation. Items crossed that imaginary point which is now the state border several times before transformation into a final product. The director of "Motor-Sich" (50 percent of the plane inventory and 90 percent of the helicopter inventory of the CIS fly with its engines) Vyacheslav Boguslayev told about a dumbfounding fine of 209 billion karbovantsy levied because he purchased rare-earth metals in Russia and also sent them to metallurgical plants in Russia for smelting of items needed by the plant. "Where was the buy?" the bureaucrats worry, and write out a fine which could ruin not just the plant, but the entire branch.

Assemblies, aggregates, engines, fuselage, wings—they work on all of these, both in Ukraine and in Russia. For example, Zaporozhye is doing 40 percent of the work, Ufa 40 percent, and the Moscow "Salyut" 20 percent in development of the D-436 engine for the Tu-334 aircraft, declared a priority in Russia. The financing of many Ukrainian enterprises comes directly from the Ministry of Defense of Russia. And the money is already being transferred back to Russia from Ukraine through a chain of subcontractors. That same "Motor-Sich" has just transferred a prepayment of 2 billion rubles to rescue the Omsk Aggregate Plant from the horrors of the Russian file system. This is by no means charity, but concern for a partner, and thus for itself.

Such is the reality before which retreat the political ambitions which just a year or two back filled the heads of those who thought that the economy of the two former Soviet republics could flourish separately. The artificial separation led to pitiable results. With each year the quantity of western aviation equipment in Russia increases. The prediction for 1995 is 40 acquired or leased western aircraft. And the reality for 1994 was that 47 nationally-produced planes and helicopters were acquired by Russian aviation companies. For this reason, the warnings that at such rates the aviation industry of Russia will last a maximum of another two years are reasonable ones. Civilian aviation will last a little longer, perhaps to the year 2000. Even now a major company like "Vnukovo Airlines" cannot buy itself a new aircraft.

In the words of the chairman of Goskomoboronprom [State Committee for the Defense Industry] of Russia Viktor Glukhikh: "Today it is not a question of whether we are together or not. If we are not together, we simply won't exist." Under conditions in which complaints of a shortage of budgetary financing bring nothing except a headache, in order to save itself the defense industry has begun to search for unorthodox solutions. It has long been accused of being incapable of showing any initiative. The financial-industrial group, which is supported by fifty enterprises of Russia and Ukraine, is testimony that the defense complex too is assimilating the lessons of the market economy.

Comprehensive Recycling of Conventional Munitions and of Explosives Being Freed Up

95UM0243B Moscow KONVERSIYA in Russian No 10, 1994 pp 24-25

[Article by B. V. Matseyevich and Yu. M. Leshchinskiy, Russia]

[FBIS Translated Text] The change in the international situation in recent years and conclusion of a number of treaties on reducing arms and military equipment made the problems urgent that are connected with recycling not only of nuclear and chemical munitions (mass destruction weapons), but also conventional munitions: artillery, air, naval and so on.

During the cold war years many countries, including the Soviet Union, accumulated considerable stockpiles of

conventional munitions whose storage not only demands great material costs, but also represents a potential and ever-growing danger of mass explosions, fires and other ecologic disasters.

A considerable quantity of munitions subject to recycling has accumulated on the territory of Russia.

Essentially all countries which manufacture conventional munitions as a rule would explode or burn up in open areas or sink in ocean waters munitions that had become obsolete, that had been removed from the inventory, or that were unsuitable for use for their immediate purpose. The ecologic damage connected with this demands no explanations; in addition, a considerable quantity of material resources is irretrievably lost.

The adoption of special environmental protection laws in many world countries and the Green movement are activating a search for a transition to ecologically safe and economically advisable methods of recycling such munitions.

The large volumes of munitions that have accumulated on Russian territory that are obsolete, that have been removed from the inventory or that are unsuitable for use for their immediate purpose completely preclude the possibility of their detonation, incineration or ocean burial. Therefore our country has chosen recycling methods as a general approach to this problem. Recycling of munition stockpiles in the Russian Federation is based on the following main principles:

- comprehensiveness of production, i.e., recycling all elements of munitions;
- safety in all stages of work;
- ecologic cleanness of the technological process;
- registration of munitions, their elements and explosive materials obtained in all recycling stages that represent a special social danger, and steps to preclude their unsanctioned proliferation;
- the need for creating new jobs;
- economic advisability of a particular recycling method.

The main scientific-technical problems in creating comprehensive munition recycling industries are connected with the following:

- extracting explosives from munition cases;
- converting these explosives into industrial explosives;
- converting powders both into industrial explosives as well as into other products and articles;
- creating special furnaces for ecologically clean incineration of fuzes, primer cups, tracers and so on;
- processing packing and other auxiliary materials;
- ensuring compliance with ecologic requirements.

Comprehensive recycling of the stockpiles of obsolete and unsuitable munitions which are at Russian Ministry of Defense bases and arsenals will permit returning to the national economy ferrous and nonferrous metals, explosives, powders, solid propellants, wood and plastic as industrial substances for the mining industry.

It is quite obvious that performance of the whole set of tasks connected with recycling munitions demands not only significant financial costs, but also time for their realization.

Practical recycling cannot be postponed, and so some of Russia's plants already began this work in 1992. In order to preclude or diminish ecologic damage before scientific, technical, financial and organizational problems of recycling are resolved, the simplest munitions, filled primarily with TNT, are being recycled today: high explosive-fragmentation artillery projectiles, antitank mines and certain others.

Such elements of munitions as fuses and primer cups, for which existing recycling methods involve great ecologic damage, are being stockpiled until the creation of ecologically clean, reliable equipment for processing them.

One of the main recycling tasks is to extract explosives from munitions. At the present time there essentially is no general-purpose method of removing the filling. This is because of the very great diversity both of munition designs as well as of formulas of explosives used to fill them, which have a large range of physicomechanical and physicochemical properties.

Each specific type of munition must have its own technology developed for removing and processing explosives with consideration of economic expediency and the level of ecologic protection.

These technologies can be combined conditionally into three groups.

1. Munitions filled with TNT and other meltable explosives based on TNT, above all artillery projectiles, should have the filling removed using different versions of noncontact and contact melting by steam or hot water, induction heating of the munition case, washing-out by a high-pressure stream of water, and washing-out by melting the TNT.

2. It is advisable to remove the filling of large munitions filled with composite meltable explosives using various washing-out methods: high-boiling inert liquids or a stream of high-pressure water.

3. Munitions filled chiefly with A-1X-1 and A-1X-2 types of nonmelting explosives pressed into the case can have the filling removed using various methods of mechanical destruction of the burster charge, including a stream of water.

Removing explosives (burster charge) from munitions filled by the separate-charge method using a meltable fixing agent presents no difficulties. When the cases of such munitions are warmed, the fixing agent melts and the burster charge is easily removed.

A search for ways of using the explosives and powders removed from munitions is of special importance, since the greatest ecologic harm to nature is done by destroying them by detonation or incineration.

An analysis of munitions subject to recycling shows that they contain TNT, TA (TNT-aluminum) and TD (TNT-dinitronaphthalene) compounds, meltable mixtures of TNT-RDX or TNT-RDX-aluminum, nonmelting explosives A-1X-1 (retarded [flegmatizirovannyy] RDX) and A-1X-2 (a mixture of retarded RDX with aluminum) and other explosives, including liquid and plastic octogen-containing explosives and certain others.

If one compares their quantities with mining industry requirements (around 1.3 million tonnes of industrial explosives were produced in Russia in 1992), it becomes clear that industrial use of explosives extracted from munitions will not have any kind of substantial effect on the overall production volume, since these explosives will be able to cover only 2-3 percent of the annual industrial requirement. But their absolute quantity represents great material value, and also should not be destroyed for ecologic considerations.

The main bulk of explosives presently being used in extractive sectors of industry are compounds based on TNT and ammonium nitrate. As a rule, they are characterized by low detonation rates and low sensitivity to impact and friction. Using industrial explosives with a makeup including a certain quantity of RDX for crushing rock essentially has been stopped due to the high danger of their production and use. Prospects for development of industrial explosives are aimed at wide use of emulsion explosives.

The mining industry essentially has no requirement for RDX-containing explosives due to their high sensitivity to friction and impact. The technology of demolition work basically is not adapted to the use of such explosives.

Of all explosives contained in munitions, only TNT and the TA compound are dual-use substances used both in military as well as in civilian sectors of industry, but even these explosives must be converted for use in extractive sectors of industry after being melted out or extracted from munitions by other methods.

The main way for such conversion is granulation. A belt granulator has been created for this purpose with a special disperser that forms drops of melted explosive. Explosives can be sent directly to consumers after granulation.

The TNT-RDX and TNT-RDX-aluminum mixtures extracted from munitions must be modified to lower their sensitivity to mechanical effects and for versatility of use in the mining industry. This is achieved both by increasing the proportion of TNT in them as well as by introducing inert components.

Much work lies ahead to create not only new, standardized formulas of industrial explosives, but also articles made of them, with the conduct of rather extensive state tests. A technology of granulating TNT-RDX, TNT-aluminum, and TNT-RDX-aluminum types of compounds, including with ammonium nitrate additives, has been successfully worked out for this.

Conditions for using these formulas must be determined and legitimized.

The next task is to use the powerful explosives extracted from munitions, representing retarded RDX and its mixture with aluminum, and to convert them into industrial explosives. Since they do not melt, the most promising way is to create explosive slurries on their basis and subsequently make sticks and obtain "slurry" type charges. Such charges are promising, especially for small and medium consumers (in terms of the quantity of explosives used), and a growth in their production volume can be expected in the next few years. Without question, they will find wide use in the Russian mining industry.

Conversion of explosives, especially containing RDX, for further use in extractive sectors of industry is economically unprofitable. Meanwhile, the cumulative ecologic damage from incinerating explosives extracted during recycling, if they are converted into industrial explosives, is R60 billion (in 1 January 1993 prices). But costs of all work connected with using these explosives will not exceed R30 billion. Even these figures indicate that we are doomed to seek ways of converting explosives.

It is obvious that the main direction for using recycled explosives as industrial explosives and as various articles for industry (intermediate detonators, linear shaped charges for cutting metal structures, cords for extinguishing forest fires by creating mineralized zones, special charges for destroying outsize rocks and for hardening and welding metal structures) is not the only one.

Prospective ways of using recycled explosives also are possible—obtaining industrial diamonds by explosion, obtaining paints, obtaining triaminotoluene from TNT as a raw material for the chemical industry and so on.

Work with various enterprises is being done in this area under coordinated requirements specifications. Institutes of the Russian Academy of Sciences, specialized scientific establishments and chairs of educational institutes have been involved in this work.

The comprehensive approach taking shape in the Russian Federation to the problem of recycling conventional kinds of munitions and of recycled explosives lends confidence that this problem, which is complex in the scientific, engineering and production directions, will be solved.

FOREIGN MILITARY AFFAIRS

U.S. National Security Strategy

95UM0226A Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, 1994 (signed to press 8 Nov 94) pp 2-10

[Unattributed article under rubric "General Problems"]

[FBIS Translated Text] **The Goldwater-Nickles law "On U.S. Defense Department Reorganization" entered into force on 1 October 1986. Under Article 603 of this law, the President must submit an exhaustive report to Congress on questions of U.S. national security strategy in late January or early February of each year.**

The report prepared by the Clinton administration in 1994 is very substantial in volume. The material offered for the readers' attention represents a detailed account of it and basically preserves its structure, features of style, and terminology.

The report notes that a new era has arrived inasmuch as the cold war has ended. Disintegration of the Soviet empire radically altered the situation in which the Americans and their allies now find themselves. The main motive in the security sphere during the last 50 years—deterrence of communist expansion and at the same time prevention of nuclear war—has disappeared. The country no longer is threatened either by a powerful grouping of armed forces at the East-West line of confrontation or by missiles ready for launch and targeted on the United States. Meanwhile, a complicated set of new and old threats to security which America must oppose continues to exist in the world. Therefore by its participation it can and must exert an influence on world processes, but the degree of its involvement should be regulated carefully in accordance with its own interests.

The cold war ended, but the need for American leadership abroad remains very great. Even now, the country has to have those Armed Forces which would be sufficient to oppose different threats to security and, should it be necessary, to conduct combat operations and win victory over enemies. Today the U.S. Armed Forces are the best outfitted and trained in the world, and the military-political leadership firmly intends to do everything to see that this is so in the future as well.

The United States is the main world power. Former enemies now are cooperating with it on a diplomatic level and in solving global problems. The threat of war between great powers and the probability of nuclear destruction has diminished sharply. The dynamism of the global economy is transforming trade, culture and world politics, opening up great prospects for America and new opportunities for cooperation among peoples.

At the same time, there continue to be uncertainties in relations among states. New independent states which appeared in place of the former Soviet Union are experiencing a painful economic and political transition period, as are many democratic states of Central and Eastern Europe. The future of Russia is unclear, a repressive regime remains in China, and this country is playing an increasingly important role in the international arena. The proliferation of mass destruction weapons also presents a serious danger. Militant extremists from many countries imperil peace processes, and a revival of militant nationalism and the appearance of conflicts on an ethnic and religious basis are observed in some regions of the world.

Not all threats to security have hidden military motives. There also exist such transnational phenomena as terrorism, drug smuggling, deterioration of the state of the environment, rapid growth of the population and refugee flows, and exacerbation of ecologic problems, which affect current and long-term U.S. policy.

A set of threats has come to replace the single danger which determined U.S. participation in world affairs during the cold war, and a new national strategy is in the making which is developing ways of overcoming them. In the period of global changes, there is growing understanding that the United States cannot perform police functions throughout the world, but it also is becoming obvious that the United States must assume the role of world leader, inasmuch as economically and militarily it is the mightiest world power, having advanced further than others in the defense of democratic values.

National strategy extends to the political, military and economic spheres and is aimed at attaining priority goals which are being realized by the present administration: strengthening security, ensuring the nation's prosperity, and developing democracy.

STRENGTHENING SECURITY. The U.S. leadership is responsible for the lives and personal security of Americans, preservation of their political freedom and independence, and assurance of the country's well-being and prosperity. The stability of mutual relations with allies and friendly states acquires special importance here.

The following is required above all to strengthen security at the present time: presence of powerful Armed Forces in readiness to conduct combat operations; development of an all-encompassing approach to countering threats connected with certain countries' development of nuclear and other kinds of mass destruction weapons; vigorous efforts in the arms control area; maintaining an intelligence potential; development of a strategy of participation in peacemaking operations as part of multinational forces; and clear, precise criteria for using military force under present conditions.

The U.S. Armed Forces play a key role in achieving success in implementing national strategy. National strategy determines the directions of their organizational development and options for deploying groupings on U.S. territory and abroad with consideration of opposing such main kinds of threats as proliferation of mass

destruction weapons, regional conflicts, and the danger of a destabilization of the situation in certain states.

Although there may be a great requirement for involving the Armed Forces, the scarcity of resources forces the U.S. military leadership to carefully determine the means and scale of intervention in each specific instance. It would be foolish to establish in advance all restrictions which must be taken into account in using force, but it is advisable to establish several basic principles by which one must be guided in making a decision on using it:

- only national interests should determine the degree and scope of activation of the Armed Forces;
- insofar as possible, one should strive to use the assistance of allies or to act within the framework of appropriate international organizations;
- in any case, before employing military force answers must be found to the following questions: Have other means been exhausted which would provide an acceptable chance for success? Which Armed Forces capabilities should be used and does the use of military force correspond to political goals to the necessary extent? Is there sufficient confidence that the actions of the country's leadership will receive the American people's approval? Have time frames or stages been determined which will enable assessing the degree of success or failure, and has a plan for terminating military involvement in the conflict been drawn up on a mandatory basis?
- U.S. intervention in combat operations should take into account such factors as reasonable cost of the operation and feasibility of missions.

In order to defend its interests in the face of threats and dangers, the United States must have powerful, flexible Armed Forces capable of performing various missions (in this document certain requirements for ensuring national security also are considered as missions of the Armed Forces).

Involvement in major regional conflicts. In planning measures under conditions of a major regional conflict, primary attention should be given to deterrence and if necessary also to the conduct of combat operations or repulse of aggression by such potentially hostile powers as North Korea, Iran or Iraq. The growing might of the Armed Forces will permit defeating aggressors in two major regional conflicts which may occur almost simultaneously. The United States also will possess sufficient potential for deterring and repelling hostile coalition forces or one powerful enemy, even if the latter's capabilities exceed the American leadership's assessment.

Assurance of necessary presence on overseas territories. In peacetime U.S. troops should be accommodated in key regions to deter aggression. A military presence outside the limits of U.S. territory will be preserved in the future as well in such forms as maintaining troop groupings on a permanent basis, their temporary deployment and conduct of joint exercises, warship calls, exchanging visits and maintaining contacts in the military area.

An increase in our allies' defensive capabilities and a demonstration of U.S. obligations to defend interests reinforce deterrence of an enemy, encourage allies to share responsibility, reduce the likelihood of troop involvement and create a favorable situation in case the participation of U.S. Armed Forces nevertheless should be necessary.

Opposition to proliferation of mass destruction weapons and their means of delivery. A determining direction in this sphere of activity is the fact that the United States is striving to permanently extend the Treaty on the Non-Proliferation of Nuclear Weapons after 1995 and give it a universal character. The signing of the Treaty on a Comprehensive Nuclear Weapon Test Ban in the near future, termination of production of fissionable materials used for their creation, and expansion of powers of the group of representatives of countries supplying nuclear technologies and of the International Atomic Energy Agency also are viewed as the chief goals.

It is considered reasonable to expand the number of members of the Missile Technologies Control Regime Group for the purpose of taking steps to fight the proliferation of nuclear weapon delivery vehicles (missiles).

It is noted that the problem of proliferation of mass destruction weapons is global, and adjustments must be made to the actions of the country's leadership considering features of different regions.

The United States signed bilateral agreements with Russia and Ukraine which obligate these states to observe provisions of the missile technologies control regime. Russia agreed not to transfer space technologies to India which may be used in the military area. The United States continues to exert pressure on Ukraine and Kazakhstan in the matter of dismantling intercontinental ballistic missiles on their territory and is urging China to assume treaty obligations in the missile technologies control area. Under pressure of the United States and Russia, Ukraine is fulfilling a trilateral agreement on removing nuclear warheads from its territory to Russia in exchange for compensation being granted.

The United States is attempting to prevent the appearance of new states possessing chemical, biological and nuclear weapons as well as their delivery vehicles. But if efforts in this area do not produce results, its Armed Forces must be ready for deterrence, for prevention of the use of mass destruction weapons and for protection against them. The United States will retain for itself the right to deliver a strike against those countries which would like to employ mass destruction weapons.

One of the main tasks of the American leadership is to maintain strategic nuclear forces at a level sufficient for future deterrence of any state that possesses nuclear arms and is hostile toward the United States from actions which would contradict the country's vital interests.

Great efforts will be directed toward proving that achieving nuclear superiority over the United States is unrealistic.

Arms control is an inalienable part of national security strategy. It can help weaken motives for initiating aggression and increase predictability regarding the numerical strength and structure of armed forces, which should diminish fears concerning possible aggressive intentions. In addition, it helps limit the proliferation of chemical and biological weapons as well as strategic nuclear forces of other countries which may continue to represent a direct threat to the United States.

Measures for reducing the unjustifiably large potentials of the defense industry, especially connected with mass destruction weapons, also will contribute toward achieving stability in the world in the postconfrontation period. The U.S. administration will strive to achieve the fulfillment of agreements on conversion of the defense industry of states of the former USSR and possibly China.

Involvement in multilateral peacemaking operations. The United States must be ready to take part in multilateral efforts to resolve local conflicts and to support new democratic governments when required by the country's interests. By working together with UN headquarters and individual countries which are part of the United Nations, the United States is working to ensure that this organization is able to assume responsibility for conducting only those peacemaking operations advisable from a military and political standpoint and to exercise effective control of them.

The majority of peacekeeping operations conducted by the United Nations do not require U.S. Armed Forces involvement, but in those instances where such a question is considered, the United States proceeds from rigid requirements, including those principles based on which any decision must be made about use of the Armed Forces. It strives to see that the level of risk for personnel and effectiveness of command and control of American and foreign troops would be acceptable.

The United States considers participation in peacemaking operations as one of the means of ensuring its national security, and not as independent actions.

Two points must be stressed especially. First of all, involvement in peacemaking operations is not the primary mission of the U.S. Armed Forces. It is to deter and if necessary conduct combat operations and win victory in conflicts threatening the country's most important interests. Secondly, while the international community may create conditions for achieving peace, in the final account responsibility for peace should rest above all on the state involved in the conflict.

Fight against terrorism and the drug mafia, and other missions. Along with performance of the missions enumerated above, which are the primary ones for general-purpose and strategic nuclear forces, U.S. troops also should be used to perform a wide spectrum of other no less important missions.

The report notes that as long as various terrorist organizations threaten American citizens and national interests, there remains a need to have special subunits capable of fighting them successfully and intended for delivering attacks against their bases abroad, including in those states which support terrorist organizations and groups. Counterterrorism policy is as follows: make no concessions; continue to exert pressure on states which encourage terrorism; make full use of the capabilities of law-protection agencies; and assist governments of other countries.

The United States is changing its strategy in the fight against the drug mafia. While primary attention previously was given to stopping the transit of drugs, efforts now will be directed at engaging in joint activity with countries where drugs are produced to establish appropriate forces and assets, and also at destroying criminal groups and stopping the deliveries of drugs.

To protect lives and ensure the safety of Americans abroad, the United States has special Armed Forces subunits trained and equipped with everything necessary for their evacuation from zones of local or international conflicts as well as from areas of natural disasters or production catastrophes.

U.S. military specialists must continue to assist in training armed forces of friendly states which are fighting subversive elements, rebel movements or lawbreakers.

Finally, the mission is assigned to preserve the leading position of the United States in the area of carrying out space programs.

Increasing intelligence capabilities. The document emphasizes that only strong intelligence is capable of ensuring the proper degree of warning about threats to U.S. national security. In connection with the fact that the very concept of national security expanded substantially following the end of the cold war, intelligence must collect data and perform analysis on a broader spectrum of military, technical and economic problems, exert an influence on Armed Forces organizational development and arms procurement, and also perform combat support missions. It must play a key role in efforts to resolve regional conflicts, in the fight against proliferation of mass destruction weapons, terrorism and drug smuggling, and in counterintelligence activity. In order to correctly assess the threat to democracy and economic well-being of the United States, the "intelligence community" must give special attention to political, economic, social and military aspects in those regions of the world where American interests are being seriously

affected and where information being collected from open sources is insufficient for decisionmaking.

Economic intelligence must play an ever growing role by helping politicians uncover development trends in this area. It can provide assistance to U.S. officials taking part in trade talks and can prepare a foundation for successful economic activity by identifying threats to American companies from foreign special services. This requires taking steps to strengthen intelligence capabilities, to assist in the information activity of overseas missions, and to reinforce cooperation in collecting private and classified information.

The primary missions in the intelligence area are as follows:

- ensure timely warning about threats of the use of nuclear weapons remaining on former Soviet Union territory and of mass destruction weapons which other states possess;
- perform missions of intelligence support to operations being conducted by the Armed Forces;
- identify potential crises at an early stage and assist in preventive diplomacy;
- develop new methods of collecting, processing and disseminating intelligence, including through the establishment of closer ties with its consumers, so that it satisfies existing needs to the greatest extent;
- upgrade on a global scale technical capabilities for uncovering and determining the nature of actions by other states in the area of creation of mass destruction weapons;
- reinforce counterintelligence activity;
- ensure purposeful support of actions of law-protection agencies in such spheres as counterterrorism and fighting the spread of drugs and the illegal transfer of technologies;
- upgrade methods of operational activity and the organizational structure for improving effectiveness of work;
- where possible, revise the limitations existing for many years on access to intelligence in order to make it more accessible for consumers;
- reinforce relations and build up an information exchange with special services of friendly states, especially in those areas where U.S. intelligence capabilities are limited.

ENSURING THE NATION'S PROSPERITY. The document submitted to Congress emphasizes that the main goal of the national security strategy is to ensure America's prosperity through efforts taken both within the country as well as abroad. Interests in the sphere of security and economy are becoming more and more interrelated. Vigorous diplomatic activity, the capability of maintaining powerful armed forces, and propaganda of U.S. values abroad—all this contributes to successful functioning of the economy to no small extent. A further strengthening of the economy and increased competitiveness of American commodities has been one of the serious economic problems over the last decade.

In addition to reducing the federal budget deficit, the United States is taking a number of other steps to increase the competitiveness of its commodities and is investing in technologies, above all for dual purposes. This simultaneously satisfies the needs of the civilian sector of the economy and of the Defense Department, contributes to the conversion of military industry and an upgrading of the information data base and other vital infrastructure elements, and increases the training quality of the labor force.

The private sector is the main engine of economic growth. The state acts as its partner, protecting the interests of American business and helping to level capabilities of penetrating the international market, to increase the export of American goods, and to eliminate obstacles to the development of creative, self-starting, highly effective trade and other commercial activity both within the country as well as abroad.

The success of business depends as never before on its activeness in the international market. The capability to compete there will help American companies continue efforts to improve labor productivity and renew production, which in turn will elevate the nation's standard of living. But in order to compete abroad, U.S. firms need the very same access to foreign markets as foreign firms have to the American market. The task is set to take vigorous steps to increase access to these markets along the line of bilateral and regional relations.

The conclusion is drawn that an expansion of international economic cooperation gains from the coordination of macroeconomic policy of "Big Seven" states, and especially of three countries with the most developed economy—United States, Germany and Japan.

As shown by the experience of two oil crises and the Persian Gulf war, interruptions in oil deliveries may have a significant influence on the U.S. economy. Appropriate foreign policy measures taken in response to such events as Iraq's invasion of Kuwait limit the scale of the crisis. It is noted that over the long term U.S. dependence on access to sources of oil abroad will become ever stronger as its own resources are exhausted.

DEVELOPING DEMOCRACY. One of the most reassuring trends over the last 15 years is the sharp increase in the number of countries which have rejected authoritarian governments and have chosen a democratic path of development. Inasmuch as the ultimate success of many of these experiments is not guaranteed in any way, it is necessary to focus attention on consolidating such regimes, increasing the sphere of their obligations in the interests of democracy, expanding markets and preserving U.S. positions in regions giving rise to the greatest concern from the standpoint of security and in those regions where it is possible to achieve the best results. This is not a crusade to establish democracy, but a pragmatic policy for maintaining freedom where it corresponds most to American interests. Therefore the leadership must concentrate efforts on assisting those

countries which are included in its sphere of strategic interests and possess a powerful economic potential and nuclear weapons, and those countries where the political situation may cause flows of refugees to the United States or to allied and friendly states.

A key role in this sense belongs to Russia. If the United States helps to strengthen democratic transformations there (and in other independent states of the former USSR) and to conduct market reforms, the threat which previously existed will be able to be transformed into the sphere of diplomatic and economic partnership. In addition, U.S. actions with respect to Russia, Ukraine and other states create favorable preconditions for a further reduction of nuclear arms and their observance of international agreements on nonproliferation of such arms.

The new democratic states of Central and Eastern Europe comprise another important sphere of interests both with respect to ensuring security as well as entering potentially capacious markets in connection with their proximity to old partners in Western Europe.

The United States will build its policy in the Asiatic-Pacific region in the interests of supporting the democracies already arising there and will encourage other countries to take this path. The task is set to keep a close eye on states whose entry into the democratic camp with a market economy may influence the future direction of development of the entire region.

The answer to this question depends on a number of features. The following criteria exist for facilitating the process of consolidation, expansion of democracy and development of the market economy: we must continue to head up efforts to mobilize international resources, as is occurring in relations with Russia and other new states; we must continue to be ready to take urgent steps in situations where threats arise to democratic changes; and we must continue to give democratic states an opportunity to obtain the greatest benefits from integration into the sphere of market economy.

The last part of the report examines U.S. policy with respect to various regions of the world.

Europe and Eurasia. It is noted that stability on this continent also is vitally important to U.S. security. With the disintegration of the Soviet Union and the birth of new democratic states, a unique opportunity appeared for it to assist in establishing a united, free Europe, where for now the danger of war remains.

The United States needs a reorganization of institutions which ensure security so they can act more effectively in conflicts arising in Europe and contribute to European integration. Many organizations, including the European Union, Western European Union, European Council, Conference on Security and Cooperation in Europe and the United Nations, will play an important role in this process. But NATO, historically the largest military-political alliance, must hold a central place in it.

Only this bloc has armed forces, an allied command, a broad legislative foundation and experience in international activity, which permits attracting new members and reacting to conflicts that arise.

NATO's role is changing with the end of the cold war. Today this organization plays a key role in resolving ethnic and inter-ethnic conflicts in Europe. With assurance of the leading role of the United States, it was able to create forces, for example, which are helping to achieve a peaceful settlement in the former Yugoslavia.

With the adoption of the "Partnership for Peace" program in January 1994, the North Atlantic Alliance began playing an even more important role in the U.S. strategy of European integration by extending cooperation in the security area to new democratic countries of Europe. The document stresses that the "Partnership for Peace" program is open to all European states, including those which were part of the Warsaw Pact. Each country party to the program must determine for itself the scale and rates of its cooperation with NATO.

With respect to the economy, the United States is attempting to facilitate the development of vigorous and open market relations. It supports the process of integration of European states into the European Union and is striving to deepen cooperation with it to achieve its own economic goals, but at the same time also is encouraging an expansion of bilateral trade with countries which are not its members and is investing in their economies.

Along with activity to strengthen its own economy, the United States clearly realizes that by assisting in the conduct of market reforms in young democratic states of Eastern Europe, it thereby assists in the prosperity and security of its own nation.

The report notes that economic transformations being carried out in Russia will go down in history as the greatest event of this century. The Russian Government achieved significant progress in solving questions of privatization and reduction of inflation rates. But much still has to be done to ensure restoration of the economy and social protection of the population based on reforms.

The short-term difficulties connected with acceptance of Central and Eastern European states into western economic structures will be repaid a hundredfold when they have been overcome, and these countries will be able to become economic partners of the United States and the European Union. This is why the present U.S. administration intends to strengthen support of market reforms in new states formed on territory of the former USSR and to continue assisting economic transformations in Central and Eastern Europe while simultaneously giving attention to steps to overcome negative consequences, which have arisen to a considerable extent as a result of disintegration of the Council for Economic Mutual Assistance.

In the final account, success of market reforms in Eastern Europe will depend more on the effectiveness of trade than on U.S. economic aid. Not one developed state has enough financial resources to substantially affect the economy of countries which are moving toward free market systems.

One of the main tasks of the security policy being followed at the present time is to support democracy and protect personal freedoms in Russia, in states which formed on former USSR territory, and in countries of Eastern Europe.

East Asia and the Pacific Ocean are regions of growing importance for U.S. security and prosperity. Nowhere are the three elements of its strategy more closely interrelated and the need for continuing U.S. involvement so obvious. The U.S. President envisages conduct of an integrated strategy within the framework of the new Pacific Community, linking requirements for ensuring security with economic realities and concern for democracy and human rights.

The United States proceeds from the fact that it is a "Pacific state." To prevent regional aggression and protect its interests, it will retain an active presence and continue the policy of leadership in this region in the future as well. In addition to accomplishing the general functions of forward presence, the Armed Forces must help deter aggression and adventurism of the North Korean regime. Continuing the fight against proliferation of mass destruction weapons on the Korean Peninsula and in South Asia is viewed as a very important mission within the framework of the new Pacific Community.

Economic development of countries of Asia also is in state interests. Specifically the United States is capable of providing much of the overall volume of industrial products and services which they need for continuing their own economic growth. Some Asiatic states are a very major U.S. trade partner already today and provide jobs for 2.5 million Americans.

Comprehensive cooperation with the PRC is expanding. Striking confirmation of this is the U.S. decision to refuse to tie the granting of most favored nation trade status with the problem of observance of human rights. The United States also is attempting to assist in accelerating China's economic development on principles of more open market relations in conformity with international trade practice. With consideration of China's growing economic potential and the presence of impressive military power there, it is necessary for Beijing not to be a threat to security in the region. To these ends the PRC's cooperation in regional organizations is being actively encouraged to increase security both of this power itself as well as of its neighbors. The desire is stressed to develop cooperation with China in the interests of control over the proliferation of mass destruction weapons.

One of the most important tasks of policy in building the new Pacific Community is to give support to democratic reforms being accomplished in the region.

The **Western Hemisphere** also is fertile soil for realization of U.S. strategy. A consistent improvement of the situation from a security standpoint, including settlement of border conflicts and establishment of control over rebel movements and proliferation of arms, will become an important foundation for achieving political and economic progress in this region.

Ratification of the agreement establishing the North American Free Trade Zone represents one of the most significant foreign policy achievements of the U.S. administration, inasmuch as it contributes to solving key general political problems. This agreement signifies not only the creation of new jobs and expansion of opportunities for American business, but also is an essential step in consolidating the democratic countries of this part of the world. The United States remains a proponent of extending democracy to where people do not yet have freedom. Its most important task is to protect civilian governments elected by the people, preserve authority in their hands and assist in a gradual formation of stably functioning democratic societies where human rights are respected.

Near East, Southwest and South Asia. The United States has long-term interests in the Near East, especially in the matter of peaceful settlement of problems of protecting the security of Israel and of Arab friends and also ensuring free access to the region's oil resources at acceptable prices. National strategy is built with consideration of the region's unique characteristics and the vital interests of the United States, which is attempting to strengthen peace and stability here.

In Southwest Asia the United States must preserve its presence basically through Navy ships in the Persian Gulf and adjoining waters as well as prepositioned arms and military property. After Operation Desert Storm, ground-based aircraft and Army and Marine contingents were additionally stationed in the Persian Gulf on a temporary basis.

Although the United States offers cooperation and assistance to the region's countries which have chosen peace, it firmly intends to deter those which fan conflicts and to oppose their policy. Fulfillment of a new deterrence strategy with respect to Iran and Iraq has begun.

The process of democracy's spread is observed in South Asia. The U.S. administration's task is to assist peoples of this region, to strengthen stability by resolving long-standing conflicts and to accomplish confidence-building measures. Such a course helps protect U.S. interests in the matter of opposing the proliferation of nuclear weapons and ballistic missiles. The United States is urging India and Pakistan to reach an agreement to curtail their programs for creating mass destruction weapons and to reduce and in the final account destroy

weapons of this kind and ballistic missiles. Regional stability and improved bilateral relations also are important to the United States from the standpoint of economic interests in the area, in which a fourth of the population of the globe lives and which is one of the most important and rapidly developing markets.

Africa. The presence of an enormous number of economic, social and ethnic problems in countries of this continent and the complicated situation with respect to the state of the environment engender pessimistic sentiments. The United States will strive to help create an atmosphere favorable for accelerating the socioeconomic development of African states.

Humanitarian actions together with the international community will require an activation of efforts to overcome Africa's complex problems. But in the final account, the efforts of the United States and the international community should be limited in time and should pursue the goal of having the people themselves create conditions for putting their own house in order. Both in Somalia and in other countries, responsibility for the fate of the nation rests above all on the people themselves.

Directions of Development of NATO Allied Forces

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[Article by Lieutenant Colonel A. Mezhenin under rubric "General Problems"]

[FBIS Translated Text] The reorientation of the "defense on forward lines" concept where possible in favor of "reduced forward presence" and modification of the "flexible response" principle (with consideration of lesser dependence on nuclear weapons) permitted the NATO military-political leadership to carry out a significant adjustment of missions assigned to the bloc Allied Forces. The directions of their development also were revised.

Meanwhile, foreign military specialists note that the paramount role of NATO Allied Forces—to guarantee the security and territorial integrity of Alliance member countries—remains invariable, but they have to perform diverse functions in the new strategic situation, where global threat has been replaced by sources of risk having different directions.

Thus, in peacetime the Allied Forces are called upon to ensure security of bloc members against sources of risk and to assist in preserving stability and equilibrium in Europe, in keeping the peace by involvement in confidence-building activities, in verifying compliance with arms control agreements and in assigning troop contingents for UN missions.

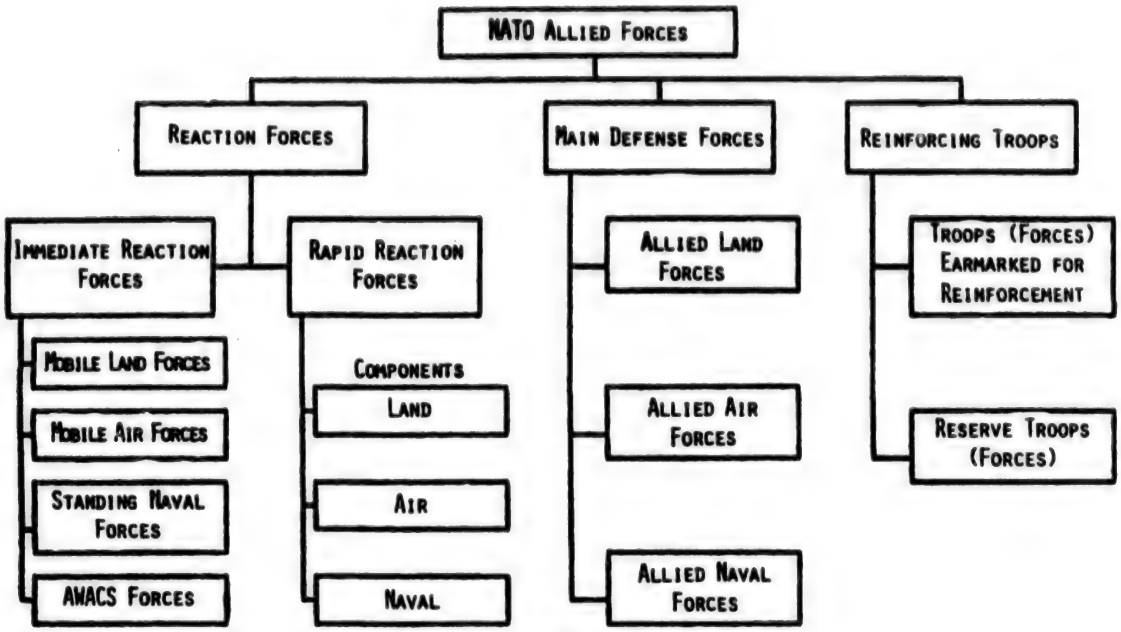
In a crisis situation fraught with military threat to security of bloc allies, the main task will be to localize the crisis back in an early stage of development and prevent its escalation into a large-scale military conflict by deterring aggressive actions aimed against any of the allies. In case aggression is committed, the Allied Forces must react adequately, repel it, and restore the territorial integrity of member states.

Despite the fact that the appearance of a large-scale war in Europe is unlikely, the North Atlantic Alliance leadership does not completely exclude such a possibility. Under these conditions, the missions of NATO Allied Forces include ensuring guaranteed protection against potential risk at the minimal level necessary for preventing a conflict of any nature, but should it nevertheless occur, restoring peace on terms advantageous to itself.

The Alliance leadership is carrying on an active search for ways of adapting the bloc's military structures to modern conditions. Primary attention here is being given to creating potential capabilities for adequate reaction to the full spectrum of probable threats to security of NATO countries. In particular, the Allied Forces must be capable of resolving crises, keeping the peace, preventing war, and guaranteeing security and territorial integrity of member countries; operating in and beyond NATO's zone of responsibility; bringing in certain units for immediate employment, others after a brief preparatory period, and the main body after lengthy preparation; and performing missions within a national framework as well as together with the bloc and another command and control structure (for example, with the Western European Union [WEU] or United Nations, when constitutional-law preconditions will have been created).

Foreign analysts note a number of stable trends in development of the NATO Allied Forces: a reduction in overall effective combat strength and degree of troop readiness; establishment of multinational force elements; increased flexibility of the command element and mobility of bloc troops (forces) both within as well as between regions; adaptation of the geographic distribution of Alliance forces to the new conditions; increased capabilities for rapid buildup of groupings; and a reduction in redundant command and control system entities. With consideration of the NATO requirement for unification and standardization within a national framework, measures will be continued for outfitting armed forces with new models of weapons and military equipment, including through a redistribution of surplus arms subject to reduction under the Treaty on Conventional Armed Forces in Europe.

The changes which have begun to show will be realized in a new three-component structure of Allied Forces—Reaction Forces, Main Defense Forces and Reinforcing Troops (see diagram). It embodies the idea of establishing small, flexible, mobile troop (force) groupings capable of reacting adequately to the full spectrum of possible threats to Alliance security under all conditions.



NATO Allied Forces three-component structure

It is believed that practical realization of requirements for increasing flexibility and mobility will ensure a multiple-option employment of NATO Allied Forces, from the activation of limited force groupings such as Reaction Forces for settling crises to the successive employment of all elements of the new structure when there is a threat of initiation of large-scale military operations. In the opinion of foreign specialists, thanks to a fundamentally new component—Reaction Forces with a significant military potential and capable of performing missions independently under various conditions—an opportunity has appeared not only to lower the readiness condition of force elements of the Main Defense Forces and Reinforcing Troops, but also to reduce the numerical and effective combat strength of peacetime troops (forces). According to an estimate by foreign experts, the Reaction Forces (around 15 percent of the numerical strength of NATO Allied Forces) will become more combat-ready, flexible and mobile. Their primary purpose is to settle crises and participate as a forward echelon in local conflicts in Europe and beyond, and in large-scale military conflicts they will support the forward movement and deployment of the Alliance main body on a threatened axis. Planning of their employment (including peacemaking operations conducted under UN or CSCE aegis) will be assigned to the Operations Planning Staff (Casteau, Belgium).

The Reaction Forces will include Immediate Reaction Forces and Rapid Reaction Forces and will have a multinational makeup. Force elements must be assigned from all member countries of the bloc military organization as well as from Spain; in the opinion of specialists, this will permit demonstrating without delay a joint resolve to oppose threats to their security.

The Immediate Reaction Forces are being established based on the existing NATO Mobile Force[1] and will number 11 army battalions (at the present time there are 8 battalions and 1 company), around 10 tactical air squadrons (200 aircraft) and up to 5 squadrons of military transport aviation (40 aircraft). The naval component (around 30 ships) will be represented by the NATO Allied Naval Forces Standing Naval Force Atlantic and Standing Naval Force Mediterranean, by the bloc Mine Countermeasures Force, and in the future also by an amphibious landing group. In addition, their makeup will include forces and assets of the command for airborne early warning and control of NATO AWACS aircraft [NATO Airborne Early Warning and Control Force]. The Immediate Reaction Force is to be at 100 percent strength in personnel and military equipment and be maintained in a high readiness condition for combat employment. This essentially is a forward echelon of the Reaction Forces intended both for independent operations with limited military intervention as well as for supporting deployment of the Rapid Reaction Force in case it is activated.

The basis of Reaction Forces consists of the NATO Rapid Reaction Force. Like the Immediate Reaction Force, it is to consist of force elements of all branches of the bloc Allied Forces, which will ensure its high independence in organizing and conducting combat operations. The Rapid Reaction Force will become the chief instrument for settling crisis situations and in local conflicts in and outside the NATO zone of responsibility. The makeup of these troops (forces) will depend on the military-political situation specifically taking shape and the scale of a probable conflict.

The land component of the Rapid Reaction Force is to include ten divisions: one national division each from the armed forces of Great Britain, Germany and the United States; two multinational divisions—the Center Airmobile Division (Great Britain, FRG, Belgium and the Netherlands) and the South Division (Italy, Greece, Turkey); two binational divisions—Anglo-Italian (a British mechanized division including an Italian brigade) and Italo-Portuguese (an Italian division including a Portuguese airmobile brigade); one two-brigade division each from Greece and Turkey (they may be supplemented by force elements from other countries); and a division group (two brigades and two regiments) from the Spanish Armed Forces by special agreement. In addition, Norway, Canada and Denmark are assigning units and subunits.

Foreign military specialists note that such a structure of the Rapid Reaction Force land component is dictated by requirements of coalition military strategy to increase mobility and flexibility of troops. Thus, depending on the situation and the area of a crisis situation, it is envisaged activating from one brigade to four divisions from the overall makeup of the Rapid Reaction Force land component (approximately 80,000 persons).

The makeup of the Rapid Reaction Force land component includes formations and units varying both in type (airmobile, mechanized and armored) as well as in affiliation (national and multinational). Under conditions of uncertainty as to the areas where crisis situations will break out, the inclusion of formations and units stationed throughout the territory of the European Theater of War (from Norway to Turkey) in the makeup of the Rapid Reaction Force land component will significantly increase the strategic mobility of the Rapid Reaction Force as a whole.

It is proposed to assign combat aircraft of tactical and military transport aviation from the air forces of 11 NATO countries to the air component. The employment of aviation will be planned by the Air Force Rapid Reaction Force Staff and operational direction will be exercised by the theater [TVD-theater of military operations] air force commander.

The naval component will be represented by task forces and groups ("on call"), including ships from navies of the United States, FRG, Great Britain, Canada, Belgium, Netherlands, Denmark, Norway, Spain, Italy, Greece, Portugal and Turkey. They can be placed in action if the scale of a crisis should exceed capabilities of the similar component of the Immediate Reaction Force.

Foreign analysts note that employment of Reaction Forces has two aspects—military-political and military. In the first instance they act as a deterring factor. The multinational makeup permits viewing their participation in a conflict as a demonstration of unity and readiness of Alliance member countries to defend their interests by force of arms. The military aspect lies in their capability to react adequately to the full spectrum of possible threats to Alliance security either by conducting independent military operations or by supporting the deployment of groupings of NATO Allied Forces.

In the new structure the Main Defense Forces will be the basis of NATO Allied Forces groupings. It is planned to keep a considerable part of regular force elements understrength, especially in the land forces.

The establishment of multinational force elements is considered to be a very important direction of development of the Main Defense Forces as well as of the Reaction Forces. It is planned to deploy five multinational army corps, which will reduce national expenses for maintaining large strategic formations and justify the stationing of some countries' troops on the territory of others. Practical measures presently are being carried out to establish multinational force elements. In particular, a German-Dutch Joint Army Corps and a "Eurocorps"[2] are being organized on the basis of states' equivalent participation. Representatives of armed forces of member countries occupy the leading command and staff positions on a rotation principle.

The "Eurocorps" will include formations, units and subunits of France, Germany, Belgium, Spain and Luxembourg. Its distinguishing feature is dual subordination—NATO and WEU. It is proposed to transfer the corps to NATO only in a period of threat.

Another version of realizing the multinationality principle is characteristic of large strategic formations being deployed on the basis of national corps—German-American (based on the command element of FRG II Army Corps) and American-German (based on U.S. V Corps), as well as a Danish-German Joint Army Corps. In these corps the main proportion of involvement will be placed on countries which assign the basic national large strategic formations.

With respect to Allied Air Forces as a component part of the Main Defense Forces in the new Allied Forces structure, they will continue to be given the role of the main striking force in conducting military operations. According to bloc command element requirements, they are to be kept in a high readiness condition. At the same time, in the course of the upcoming reform it is planned to reduce crew manning of aviation somewhat, which in the opinion of bloc military experts will not entail a substantial decrease in combat readiness of the Air Forces.

It is proposed to establish the Main Defense Forces of NATO Allied Naval Forces in accordance with Naval Forces operations plans in a special situation and include in their makeup all regular force elements of the bloc Allied Naval Forces.

It is planned to activate the Main Defense Forces should a threat arise of a crisis escalating to a large-scale military conflict. In the assessment of western specialists, it is

planned to maintain the Main Defense Forces in lower readiness conditions in contrast to the Reaction Forces. Their deployment may require considerable time with consideration of the remoteness of operational tasking areas.

It is planned to use the Reinforcing Forces as reserves. They will include regular and mobilized force elements not a part of the Main Defense Forces and Reaction Forces and earmarked for reinforcement as well as for establishing operational and strategic reserves in the theater of war as a whole.

The land component of Reinforcing Forces will be made up of regular formations moved from the United States and Canada to Europe and of newly mobilized force elements in bloc European countries.

The basis of the air component of Reinforcing Forces consists of U.S. combat aircraft of tactical aviation moved from the United States to the European Theater of War (squadrons of the regular Air Force and air units of the U.S. Air Force Reserve and National Guard).

The naval component of Reinforcing Forces will be represented chiefly by ships of the reserve which are in short-term and long-term mothballing.

It is planned to put the Reinforcing Forces into action in the course of escalation of large-scale military operations.

The process of transition to a three-component structure will be accompanied by a reduction in numerical and combat strength of NATO Allied Forces. In particular, before the end of the current century it is planned to reduce them by 600,000 persons with a simultaneous 20 percent reduction in the overall number of army divisions.

The reduced readiness of formations and units being implemented in the three-component structure is being tied in with an increased role and importance of reserve components of troops (forces). The problem of ensuring timeliness and quality in bringing regular formations and units up to strength as well as establishing new force elements is being brought to the foreground.

Increased flexibility of the command and control system is regarded as a very important direction of Allied Forces development. In particular, the Allied Forces Northern Europe high command has been eliminated on the bloc's northern flank. An Allied Forces Northwestern Europe high command (headquarters at High Wycombe, UK) has been formed in its place. Command elements of Allied Naval Forces (Northwood, UK) and Air Forces (High Wycombe) as well as the bloc's Allied Forces regional command in Norway (Jota, Norway) became part of it.

In Central Europe the headquarters of Northern Army Group and Central Army Group have been disbanded and an Allied Land Forces command has been established on their basis (headquarters at Heidelberg, FRG). Command elements of the 2nd and 4th Allied Tactical Air Forces have been disbanded and command and control of aviation transferred to the Allied Air Forces command (Ramstein, FRG). In addition, the command element of Allied Forces Baltic Approaches (Karup, Denmark) has been resubordinated to the Allied Forces Central Europe high command.

It is envisaged establishing two new commands in the structure of the Allied Forces Southern Europe high command in addition to the ones already existing—Allied Land Forces Central Southern Europe and 7th Allied Tactical Air Force (headquarters at Larisa, Greece), whose zone of responsibility will include territories of continental Greece and a large number of islands in the Aegean Sea.

One of the main directions of development of the bloc Allied Forces is the reequipping of troops and naval forces through modernization, development and outfitting with new kinds of weapons and military equipment, and their redistribution.

Such a development in the Land Forces is following the path of developing new and upgrading existing precision weapons of varying range, methods of protecting armored vehicles, and tactical air defense and ABM defense weapons.

In the Air Forces qualitative changes in equipment and arms will show up in the creation of a new type of aircraft. Foreign specialists are working on the problem of reducing the signature of aircraft and missile weapons (using stealth technology) and increasing the range of missiles.

In the Naval Forces primary attention is being given to increasing combat capabilities of ships, above all by outfitting them with missile systems for various purposes, including cruise missiles. Projects are being implemented to create new ASW assets and reconnaissance and fire control systems, and new-generation ships are being developed capable of performing a wide range of missions in ocean theaters [TVD].

Qualitative indicators of troop outfitting will improve significantly after fulfillment of NATO modernization plans. According to experts' assessments, the proportion of modern weapons and military equipment in the inventory will increase: third-generation tanks (U.S. M1 Abrams, FRG Leopard 2, UK Challenger and Challenger 2, French LeClerc, and Italian C-1 Ariete); self-propelled artillery; combat aircraft (F-16, F-18, EF-111, Tornado, AMX, Mirage 2000); and combatant ships.

Within the scope of implementation of the Treaty on Conventional Armed Forces in Europe, along with a reduction, a substantial renewal of main kinds of weapons and military equipment also is occurring in a number of NATO countries, which is being carried out

under the Cascade program. This program permits redistributing tanks, armored combat vehicles, artillery, combat aircraft and helicopters within the bloc. Thus, obsolete equipment models in armed forces of Greece, Denmark, Spain, Norway, Turkey and certain other countries are being replaced with more modern ones subject to reduction in formations and units of the United States in Europe, FRG and Netherlands. For example, over 1,500 modern M60A1, A3 and Leopard 1A5 tanks and around 1,500 armored combat vehicles of various types entered the inventory of Turkey and Greece from the order of battle of subunits of the United States in Europe and of the FRG. This permitted renewing armored equipment in Turkey and Greece by an average of 30 percent without special costs.

As a result of the measures taken, by the end of 1995 there will be around two million personnel, up to 20,000 battle tanks and over 6,000 combat aircraft in the Allied Forces, which should conform to the level specified by the Treaty on Conventional Armed Forces in Europe, as well as approximately 950 combatant ships. Implementation of the main directions of development will ensure the bloc's optimum defense sufficiency and the possibility of reacting adequately to various kinds of threats.

The North Atlantic Alliance military-political leadership is implementing in practice new approaches to the problem of ensuring collective and national security. The pivot of such an approach in the military sphere is the creation of potential capabilities of the Allied Forces for effective operations under conditions of uncertainty.

Instead of NATO's Standing Allied Forces, which were kept in a condition of high combat readiness and could be deployed in a short period for conducting combat operations, small but more mobile structural units are being introduced which are characterized by multiple-option employment (from autonomous operations by limited groupings in local conflicts to a consistent buildup of their makeup with the threat of large-scale military operations) and high strategic mobility. They also can be maintained at a lower readiness level if stress is placed on performance of peacekeeping missions and on crisis settlement.

In the assessment of the foreign press, the new Allied Forces structure, which is to be placed in effect by 1995, attests to the NATO leadership's desire to adapt the bloc military organization to the new conditions, preserve the integrity of Allied Forces and increase their efficiency under conditions of the reductions in national armed forces being carried out by member countries, and also broaden their capabilities for monitoring the military organizational development process in Alliance states.

Footnotes

1. For more details see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 8, 1991, pp 14-16—Ed.
2. For more details see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 9, 1994, pp 20-22—Ed.

Combat Employment of U.S. Aircraft in Regional Conflicts

95UM0226B Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, 1994 (signed to press 8 Nov 94) pp 30-34

[Article by Major P. Yelenin under rubric "Air Force"]

[FBIS Translated Text] Beginning in the late 1980's the world community entered a period of development characterized by the formation of a new international relations model. In the assessment of U.S. political scientists, this process was generated by the following basic trends in development of the world military-political situation:

- a diminished threat of the outbreak of global war between Russia on the one hand and the United States and its allies on the other;
- a buildup of the military potential of individual third world countries;
- the threat of proliferation of conventional and nuclear weapons as well as other kinds of mass destruction weapons and their delivery vehicles in developing countries;
- increased likelihood of the outbreak of regional conflicts on ethnic, confessional and criminal (drug trade and terrorism) soil and exacerbation of territorial contradictions and claims;
- activation of the work of international organizations and military-political alliances (United Nations, CSCE, NATO and others) to resolve armed conflicts with use of force;
- a worsening of the ecologic situation, which on the threshold of the 21st century may lead to adoption of international legal acts to exert pressure on states whose industrial activity is doing significant harm to natural conditions.

In the assessments of western experts, the number of countries (basically of the Asiatic and Near Eastern regions) possessing nuclear weapons and their delivery vehicles may grow 2-3 times by the year 2000. The changes occurring required the U.S. military-political leadership to revise views on national security problems and develop a new military strategy. In its opinion, the threat of outbreak of regional conflicts is becoming more and more appreciable. U.S. reaction to them can vary from large-scale military intervention, as was the case in the Persian Gulf, to accomplishment of humanitarian missions. At the same time, Pentagon representatives note that use of military force in regional conflicts will occur primarily in the form of purposeful, effective, short-lived operations (or combat operations). Armed forces must possess those capabilities which will permit adequately opposing a well equipped, well trained enemy, delivering powerful strikes and winning victory in short time periods. It is believed that large-scale regional conflicts will be characterized by medium-intensity combat operations.

These conclusions became the basis of the theory and practice of organizational development and combat employment of branches of the U.S. Armed Forces at the present stage. A traditionally important place is set aside for the Air Force, which is capable of performing a wide range of missions independently or together with other branches using both nuclear as well as conventional weapons regardless of the nature, scale and intensity of military operations. It is characterized by long operating range, flexibility, promptness, accuracy in delivering strikes, and high offensive potential of weapon systems.

The role of aviation in armed conflicts has grown considerably in recent years. The Air Force is capable of exerting sudden pressure on the most important elements of an enemy's military and economic potential and promptly retargeting aircraft and concentrating striking power where necessary. All this can substantially affect the course and outcome of military operations in a war theater. Effectiveness in employing aviation is achieved through the planning and rehearsal of combat operations by forward-based forces and through reinforcement of the latter by moving aircraft from the continental United States. As shown by an analysis of military conflicts of recent years, in their initial stage aviation supports seizure of the initiative and in some instances can play a deciding role in achieving the goals of a strategic operation and the war.

In the course of a large-scale regional conflict, Air Force aircraft will perform their assigned missions together with Naval Aviation (of the Navy and Marines) and Army Aviation. It is envisaged that efforts will be built up through the movement of tactical air elements from the United States and the arrival of a carrier battle group in the conflict area. In this case it is planned to operationally subordinate all combat aviation of branches of the Armed Forces to the air grouping commander (joint force air component commander). Organization of command and control of joint forces presently is undergoing a practical check in the course of operational and combat training.

The Air Force has developed and adopted a new concept called "Global Reach-Global Power." Organizational development and plans for combat employment of the U.S. Air Force are tied in closely with changes occurring in the world and are aimed at creating an Air Force of relatively small size possessing high potential and capable of performing missions in any region in compressed time periods.

A number of important directions for improving and building up combat capabilities of the Air Force can be singled out in the concept: creating precision weapons capable of delivering strikes against fixed targets in the deep enemy rear without entering the air defense engagement zone; introducing new command and control systems; developing aircraft permitting mission accomplishment regardless of meteorological conditions or time of day; and adopting new weapon systems that support reliable engagement of small, mobile targets.

Employment of the U.S. Armed Forces in local conflicts will be organized primarily in the form of short-lived, purposeful, effective operations. In the opinion of Pentagon representatives, in the course of a medium-intensity regional conflict it is envisaged having up to 10 tactical air wings (up to 700 combat aircraft) in the Air Force component and also using around 100 strategic bombers. In case one more major regional conflict appears at practically the very same time, the Air Force must be capable of deploying a second grouping of similar makeup. It is believed that such aircraft as the B-52, B-2, F-117, E-3A (Fig. 1 [figure not reproduced]) and E-8 can be used to perform missions in two such conflicts simultaneously.

Considering the increased threat of initiation of local armed conflicts, the U.S. Air Force command has begun the establishment and practical use of new organizational elements—composite air wings. Their inventory includes different types of aircraft of combat and auxiliary aviation (tanker, military transport, radar early warning) which are capable of independently and quickly rebasing and performing missions assigned to the deployed air grouping.

It is recommended bringing in strategic aircraft with conventional weapons in the first hours or days of a conflict to deliver a strike against important targets. Subsequently they can be used to perform mass bombings in concentration areas, on troop forward movement routes, and against air and naval bases and infrastructure installations.

Tactical aviation is given a leading role in accomplishing swift, highly effective operations in conflicts of varying intensity without the use of nuclear weapons.

In accordance with the new concept, Air Force aircraft are assigned the following primary missions in the course of an armed conflict: winning and holding air superiority; interdicting the combat operations area; close air support; reconnaissance; performing airlifts; and conducting special operations. Forces and assets assigned for this will be determined by specific conditions.

Missions whose performance will permit achieving success in the TVD [theater of military operations] are considered primary, but priority is given to the mission of winning air superiority, since its fulfillment ensures not only freedom of actions of combat and auxiliary aviation, but also cover of friendly ground troops. It must be accomplished continuously and presumes the destruction of enemy combat aircraft on the ground and in the air, suppression of his air defense weapons and disorganization of his command and control system.

The mission of interdicting a combat operations area also contributes to successful performance of the end goals of a strategic operation in a TVD. It envisages the delivery of strikes both against known targets as well as those uncovered in the course of battle which require

immediate destruction. Such targets include in particular reserve enemy force elements, depot stores, important hubs of the transportation network and others. By impeding the forward movement of enemy follow-on forces, disorganizing their command and control, destroying personnel and combat equipment and disrupting the supply system, aviation ensures attainment of a favorable force ratio at the line of direct combat contact of troops. A carefully planned decision and realization of the mission of interdicting a combat operations area may so undermine the enemy's combat potential that he will be incapable of waging active warfare.

Close air support is carried out in support of ground troops to destroy the opposing side's forces disposed a short distance from the FEBA and to exert a direct influence on the outcome of battle. Targets to be engaged above all are armored equipment, engineer works, artillery positions and personnel concentrations in the tactical depth of enemy battle formations (30-50 km from the FEBA). Such support may be planned or may be "on request," when it is required to destroy targets discovered in the process of conducting combat operations.

Aerial reconnaissance is called upon to satisfy the needs of the theater armed forces grouping for reliable information on the enemy. It is conducted by reconnaissance aviation and specially assigned tactical fighters by visual observation, photography, and special equipment. Choice of the method of collecting information depends on available technical equipment, terrain conditions, and the nature and size of the target.

Air units assigned to provide air support to naval forces must have a good knowledge of features of this kind of battle and must go through appropriate training already in peacetime. But operations of aircraft in the air space over ocean TVD's may be restricted by adverse weather conditions, by an absence of precise target coordinates and by imperfection of navigation equipment.

Airlifts are accomplished by military transport aviation—the most important means of supporting troop mobility, intended for strategic and tactical air movements of troops and cargoes. The latter are carried out within an operational theater to reinforce armed forces there or to deploy additional groupings in a period of threat and with the beginning of war.

Refueling aircraft in the air is a very important mission in the course of strategic movements and conduct of combat operations. Special significance is attached to refueling tactical fighters based a considerable distance from the FEBA. Aerial refueling also is required by NATO AWACS and radar reconnaissance aircraft performing surveillance and monitoring of air space and ground targets.

A special air operation is conducted in support of nontraditional combat operations and secret and psychological actions. One goal which is gaining increasingly great importance is the fight against illegal drug movements. Special-purpose subunits as well as combat and auxiliary aviation units can be used for this.

In addition to performing the missions considered above, aviation plays a large role in resolving problems of command and control of combat operations and conduct of electronic warfare. EW and AWACS aircraft are used for this.

In accordance with U.S. Armed Forces regulations and manuals, use of aircraft requires observance of a number of basic principles, which are constantly being updated with consideration of features of combat operations and improvements in aircraft. They include the following: selection and determination of targets, flexibility of employment, concentration of forces, aggressiveness, surprise, degree of protection, use of reserves and the factor of morale. The theater air grouping must meet the following requirements: be in a high readiness condition and be capable of lengthy combat operations day and night under all weather conditions together with other branches of the U.S. Armed Forces, and in certain cases also with U.S. allies.

The air operation is the highest form of employment of air groupings in performing the most important operational-strategic missions in a TVD. It represents a complex of combat operations by Air Force personnel and assets coordinated by targets, missions, place and time and conducted independently or together with force elements of other branches of the Armed Forces under a unified plan and concept. The following missions will be assigned to aviation in the course of an operation: delivery of massed and concentrated strikes, conduct of air battles (engagements) and accomplishment of special flights.

Massed strikes are delivered in relatively short time periods by large air units to exert simultaneous fire pressure on enemy targets in a vast area, destruction of which achieves execution of the primary mission of the operation. It is envisaged delivering concentrated strikes against several targets, destruction of which permits successful conduct of an operation in a certain area.

The main forces of fighter and tactical aviation will participate in air battles (engagements), supported by ground air defense weapons. The choice of forms of conducting such battles (engagements) in a conventional war depends on the mission being accomplished, the time period for its execution, and the makeup and combat readiness of the opposing enemy grouping.

Air operations may be offensive or defensive. Offensive air operations usually are conducted within the framework of a strategic operation of a theater armed forces grouping and are aimed at destruction or maximum reduction of the enemy air potential. Defensive air operations are a set of measures, including both active as well as passive actions, envisaging the minimization of activity of enemy aircraft: active—detecting, identifying,

intercepting and destroying airborne targets and delivering strikes against base airfields of fighter aviation and against enemy SAM system positions; passive—increasing the stability and survivability of friendly troops and military installations.

Suppressing enemy resistance and ensuring the attainment of goals of an operation and war without total defeat of enemy armed forces may become features of combat employment of aviation in regional conflicts under conditions of attainment of air superiority.

In working out a concept of Air Force organizational development and plans for its employment in regional conflicts, the U.S. command proceeds from the need not only to preserve, but also to increase the firepower of strike aviation with a reduction in its effective combat strength. To implement these provisions, it is planned, for example, to modify B-1B and B-2 strategic bombers in order to increase their capabilities of employing precision weapons against enemy offensive forces and fixed targets.

The primary role is given to the new B-2 strategic bombers, built using elements of stealth technology and capable of operating autonomously in the deep rear. Their use should considerably increase surprise in delivering strikes and support the engagement of enemy targets on enemy territory and continuity of pressure on his main installations.

In addition, it is planned to deploy air units and subunits in forward zones equipped with modernized F-15E tactical fighters (Fig. 2 [figure not reproduced]) and in the future also the F-22 (Fig. 3 [figure not reproduced]). On the whole, Air Force combat capabilities should increase substantially when new aircraft (B-2, F-117, F-22, F-15E) equipped with precision weapons become operational.

The following features of combat employment of aircraft are taken into account in creating new air weapons:

- delivery of strikes against important enemy targets with conventional ordnance simultaneously to the full depth of his territory;
- convergence of spheres of combat employment of tactical and strategic aircraft;
- decreased dependence of the intensity of air operations on time of day and weather conditions;
- aviation's increased capabilities of delivering strikes against vulnerable elements of targets for suppressing, not destroying, them.

As shown by an analysis of Persian Gulf military operations, the air grouping is capable of playing a deciding role in achieving goals of the strategic operation and the war with minimum losses of personnel and combat equipment. As a result of winning air superiority and then also air supremacy, multinational forces aircraft did considerable damage to Iraq's military-economic potential, disorganized the system for command and control of the country and army, essentially isolated the Iraqi Armed Forces grouping in Kuwait and substantially reduced its combat effectiveness. All this permitted subunits of ground troops to liberate Kuwait with minimum losses in personnel and combat equipment in the shortest possible time periods.

Practical realization of the main directions of Air Force organizational development at the present stage will permit it to take an effective part in regional conflicts.

U.S. IMEWS Space System and Creation of an Advanced Ballistic Missile Launch Detection System

95UM0227E Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, 1994 (signed to press 8 Dec 94) pp 34-40

[Article by Lieutenant Colonel A. Andronov and Captain S. Garbuk, candidate of technical sciences]

[FBIS Translated Text] The IMEWS [Integrated Missile Early Warning Satellite] space system was deployed in the early 1970's for giving the U.S. supreme military-political leadership early warning of a nuclear missile strike against U.S. territory. Its other name is DSP [Defense Support Program]. Compared with ground radar equipment, the system permitted detecting the launches of Soviet and Chinese ICBM's at an earlier stage.[1]

But in connection with changes in the military-political situation and the development of missile technology, a need arose for upgrading electronic equipment, making requirements tougher and broadening the range of missions assigned to the system. The principle of evolutionary modernization of onboard and ground gear with a gradual increase in the number of operational satellites and optimization of their orbital deployment (Fig. 1) was made the basis for this.

Three IMEWS satellites were deployed in geostationary orbit and two fixed receiving complexes were deployed during 1970-1974: in the United States at Buckley Air Force Base (Colorado) and in Australia (Woomera). The satellite deployed in the Indian Ocean zone (Indian) was intended for detecting Soviet and Chinese ICBM launches, and the two satellites (Atlantic and Pacific) situated over U.S. coastal waters were to keep an eye on launches of intermediate-range ballistic missiles from Soviet submarines (SLBM's) on alert duty off the U.S. coast.

In the latter half of the 1970's the main concern of the U.S. military leadership was caused by Soviet increased range SLBM's, which could reach U.S. territory from remote waters of the Pacific, Atlantic and Arctic oceans. The Pacific satellite was displaced almost 30° to the west of the American continent (in the vicinity of 132-136° West Longitude) to detect missile launches from these waters. But similar attempts to shift the Atlantic satellite closer to Europe in 1977 and 1980 proved unsuccessful inasmuch as the ground complex station at Buckley could not carry on dependable data reception from the satellite in the remote area of the Atlantic (36° West Longitude) due to the low elevation at which the satellite was visible, and the transportable SPS station (a total of two complexes were made) which was undergoing tests in that period required substantial modification.

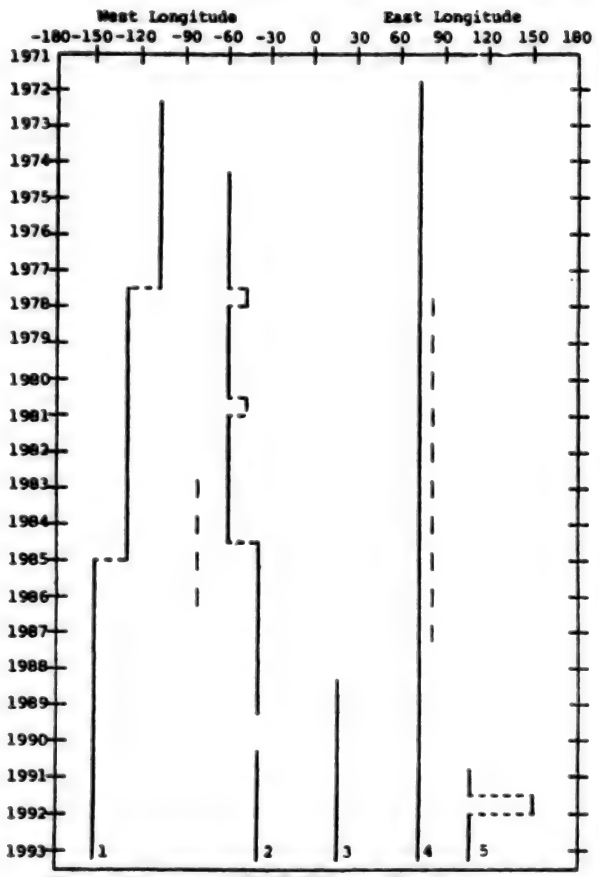


Fig. 1. Diagram of IMEWS satellite deployment:

Key:
1. IMEWS-14 (Pacific)
2. IMEWS-13 (Atlantic)
3. IMEWS-15 (European)
4. IMEWS-16 (Indian)
5. IMEWS-12 (Far Eastern)

A vertical line denotes deployment areas of operational satellites, a broken vertical line denotes deployment areas of reserve satellites, and a broken horizontal line denotes a transfer to other orbits

Improved IMEWS satellites launched from 1976 on had an increased period of design functioning (it increased from 1.5 to 3 years, but in reality they operated for 5-7 years), which permitted creating an orbital reserve of satellites which had served their time but had serviceable onboard gear. One reserve satellite each was deployed in the Indian Ocean zone and over U.S. territory, which increased the reliability of the system as a whole (see table).

Characteristics of IMEWS Satellite Models

Characteristics	IMEWS System Satellite Models				
	Experimental (Phase 1)	Improved (Phase 2)	MOS/PIM	SED	DSP-I
Years launched	1970-1973	1975-1977	1979-1984	1984-1987	Since 1989
Number of satellites launched (serial numbers)	4 (1st through 4th)	3 (5th through 7th)	4 (8th through 11th)	2 (12th and 13th)	3 (14th through 16th)
Design (actual) operating life, yrs	1.5 (3)	3 (5)	3 (5)	5 (7)	5-7 (7-9)
Satellite weight, t	0.9	1.04	1.2	1.68	2.38
Power supply system output, watts	400	480	500	705	1275
Number of telescope IR receiver detectors	2000	2000	2000	6000	6000
IR telescope operating wavelength, microns	2.7	2.7	2.7	2.7 and 4.3	2.7 and 4.3
Main system development stages determined by improvement of satellites	Deployment of ICBM and SLBM detection system	Expansion of zone for monitoring increased-range ICBM and SLBM launches		Global monitoring of launches of ICBM's, SLBM's, operational-tactical missiles, tactical missiles and missiles of other classes	

Special attention was given to Soviet SLBM basing areas in Arctic waters not viewed from a geostationary orbit. Four satellites of a new modification designated MOS/PIM (Multi Orbit Satellite/Payload Improvements) were developed in the mid-1970's and inserted into geostationary orbit during 1979-1984. In case of the appearance of crisis situations, the launch of new satellites to a highly elliptical Molniya type of orbit is possible for monitoring polar areas of the Arctic Ocean (in reality IMEWS satellites were not inserted into such orbits).

MOS/PIM satellites now provided surveillance of the entire Earth's surface visible from orbit without dead spaces and were equipped with more powerful transmitters, which permitted receiving satellite data using small antennas of the SPS transportable stations. The diameter of SPS station antennas was 11 m and that of LPS fixed stations was 18 m.

In the early 1980's greatest concern for American experts was caused by new Soviet SS-20 intermediate-range missiles intended for employment in European TVD's [theaters of military operations]. One SPS station was deployed in Germany (Kapaun) in 1982 for operational notification of the U.S. European Command, and in 1984 the operations area of the Atlantic satellite was shifted 25° closer to Europe. Thus, Soviet ballistic missile basing areas in the European USSR were under dual monitoring of the Atlantic and Indian satellites.

The main problem in detecting operational-tactical missile launches is connected with the low intensity of engine exhaust flare glow and the short duration of engine operation. IMEWS satellites of a new generation designated DSP-I (DSP-Improved) were developed in the 1980's. Their onboard telescopes operated in two regions of the IR spectrum (mean wavelength values 2.7 and 4.3 microns instead of only 2.7 microns for the old satellites) and had 6,000 detectors (previously there were 2,000). The new band permitted detecting missiles with low exhaust flare glow intensity. The second problem, short duration of operation of operational-tactical missile engines, was remedied by increasing the number of operational satellites simultaneously monitoring areas with a missile danger.

To ensure phased development of the new gear and modernization of the ground complex, two SED (Sensor Evaluationary Development) transition model satellites (IMEWS-12 and -13), which used the old design base but were equipped with new telescopes, were launched in 1984 and 1987.

Technical capabilities of the SED and DSP-I model satellites permitted detecting ballistic missile launches from any area of Earth. To realize the concept of global monitoring of ballistic missile launches, the system's orbital grouping had been reorganized by 1985 in such a way that three operational satellites were spaced 110-130° in longitude apart approximately evenly along the Equator.

The onboard gear of the new satellite models (three models were launched from 1989 through 1993—IMEWS-14, -15 and -16) permitted detecting ICBM's and operational-tactical missiles as well as tactical, surface-to-air, antiship and other missiles and even jet aircraft in an afterburning mode. In this connection the United States began accelerated development of gear for prompt communication of warning signals over satellite communication channels to the U.S. Armed Forces tactical echelon (for example, to command posts [CP's] of Air Force wings about mass takeoffs of aircraft, to naval ships about antiship missile launches, to CP's of

Army units and formations about operational-tactical and tactical missile launches). On receiving such signals the theater [TVD] commanders can take retaliatory measures promptly in a combat situation.

From the late 1980's to the early 1990's the IMEWS space system acquired the importance of a means for global tracking of launches of different classes of missiles, for conducting theater [TVD] area reconnaissance in the IR band, and for prompt warning of users at various Armed Forces command and control echelons from strategic to operational-tactical.

The expansion in range of missions performed by the system in support of command elements of U.S. theater [TVD] forces required changes in the organizational structure (the system is subordinate to the U.S. Armed Forces unified Space Command) and an increase in the number of operational satellites in orbit. A fourth operational satellite (European) began operation in 1988 in the vicinity of 8-10° East Longitude; it monitored ballistic missile launches on the European continent and transmitted data to a receiving station in Germany. A fifth operational satellite (Far Eastern) was placed in operation in the eastern Indian Ocean in 1991.

Thus, the system's present-day orbital grouping made up of five operational satellites provides threefold to fourfold monitoring of the main areas with missile danger (from the standpoint of the U.S. leadership) in Europe and Asia, including in the Near and Far East.

The first combat use of the IMEWS system for warning U.S. Armed Forces about launches of Iraqi operational-tactical missiles in 1991 was assessed in the U.S. press as very successful (98 percent of all launches were detected). It was asserted that the system was not intended for performing such missions, but modification of gear for detecting operational-tactical missiles already had been under way since the mid-1980's. For example, it was reported in the military press that work was carried out in Europe in 1990 for prompt communication of warning signals to Patriot SAM system command posts about Soviet operational-tactical missile launches. Contemporary articles contain more critical assessments of the system's functioning.

During the conflict Iraqi missile launches were detected by the Indian and European IMEWS-16 and -15 satellites (70° and 10° East Longitude respectively), and by the new IMEWS-12 launched in November 1990 and undergoing accelerated testing in the Far Eastern zone. In addition, the IMEWS-13 Atlantic satellite (39° West Longitude) could be used; by early 1991 it had limited capabilities due to nine long years of operation.

Essentially all the system's ground equipment processed data from the satellites: the complex in Woomera (from the Indian and Far Eastern), the station in Kapaun (from the European) and the Buckley complex (from the Atlantic). Depending on the volume of data received, either a full launch report containing data on time, launch coordinates, type of ballistic missile and estimated impact area would be transmitted to consumers after processing (the accuracy of determining the launch point was 3-5 km and warning time was 1-5 minutes), or only a warning signal about a ballistic missile launch would be transmitted.

The alarm signal came in place of a full report, for example, with the launch of the missile which hit the U.S. barracks in the city of Dhahran, which led to the greatest loss of Americans in the entire war with Iraq (28 personnel died). A full report just was not transmitted to the troops despite the fact that the missile launch was detected by three satellites (IMEWS-12, -13 and -15 made 2-3 fixes each).

The mission of issuing preliminary target designations on operational-tactical missiles to Patriot system radars also did not manage to be accomplished in the course of the war. The IMEWS space system essentially was the first echelon of the ABM defense system deployed by the multinational forces command in the Near Eastern Theater [TVD], and also included air, ground and space imaging and electronic reconnaissance assets, a U.S. ground radar in Turkey, communications equipment, and the Patriot systems. Intercepting Iraqi ballistic missiles over populated areas led to victims and to destruction even if the interceptor missiles hit the target. Thus, according to data of Israeli military specialists, the first missile attacks against Israeli cities not protected by these systems led to fewer victims and destruction than approximately the very same number of attacks after deployment of Patriot batteries.

Consequences of missile strikes would have been less serious if, based on rough target designations back before the moment approaching Iraqi ballistic missiles were detected by Patriot system radars, preliminary interceptor missile launches were made to intercept these ballistic missiles at a maximum distance from the defended installation.

Despite use of data from four satellites, U.S. specialists did not succeed in calculating the azimuth of the plane of departure and coordinates of warhead impact areas with an accuracy and promptness sufficient for making preliminary launches. Moreover, because of organizational and technical disorders, data on the azimuth of ballistic missile launches were not transmitted to combat complexes of interceptor missiles, and some army brigades operating outside the zone of responsibility of corps air defense weapons did not even receive warning signals of missile strikes.

The problem of vectoring airstrike elements to Iraqi mobile ballistic missile launchers based on satellite data also was not solved. Warning signals would arrive at air wing CP's 5-7 minutes after launch and airstrike elements appeared in the presumed ballistic missile launch areas 15-30 minutes later, when the launchers already had managed to abandon them.

The problem of detecting mobile launchers even under moderate desert terrain conditions proved enormously more difficult than previously assumed, and although large aerial and space reconnaissance forces in addition to the IMEWS system were involved in solving it, Iraq continued to deliver missile attacks until the end of the war.

In the opinion of the most critical U.S. experts, combat employment of the IMEWS system might have proven fully ineffective "had there not been elements of luck and Iraqi military mistakes." An analysis of its results in the course of the Persian Gulf conflict lent new impetus to upgrading the space warning system.

The principal shortcomings of the existing system are considered to be the following: low periodicity of scanning the Earth's surface (one scan in 10 seconds), which is connected with low photodetector sensitivity; presence of centralized data processing, which diminishes promptness in communicating data to theater [TVD] consumers; and the existence of periods when onboard satellite gear is "blinded" by reflected solar radiation.

The U.S. command anticipates purchasing another seven DSP-I model satellites (from IMEWS-17 to IMEWS-23) and, from satellite No 19 on, to considerably modernize their onboard gear for processing and transmitting data to Earth, including to a theater [TVD] on operational-tactical missile launches, inasmuch as increasing the promptness of these processes continues to be a key issue. Those satellites will support system functioning after 2000.

The MGT mobile systems developed in the mid-1980's for receiving and processing satellite data and intended above all for increasing the survivability of the system's ground element were connected directly with the NORAD CP and were not adapted for prompt notification of theater [TVD] consumers. New receiving stations being developed jointly by the U.S. Army and Navy under the TSD (Tactical Surveillance Demonstration), TAGS (Tactical Ground Station) and Radiant Ivory programs will be stationed in a theater [TVD] and will transmit processed data directly to consumers at the operational-tactical echelon. It is expected that around $48.4 million will be spent on these programs up to 1995. During 1993-1994 tests of the first two prototypes of receiving stations were conducted in the United States and FRG. The Navy command plans to procure two sets of stations and the Army five on condition that a sufficient amount of funds is allocated.

The concept of the new receiving station's operation in detecting low-signature targets is based on several innovations: a lowering of thresholds for activating satellite telescope IR detectors, which increases the likelihood of detection and the duration of tracking of targets with a low-intensity engine exhaust flare glow; simultaneous processing of target fixes made by several satellites from different points of a geostationary orbit (stereo images), which increases fix accuracy; and processing of received data using ballistic missile ballistic models for a more precise forecast of the parameters of operational-tactical missile trajectories.

A concept on which Air Force specialists are working within the scope of the Talon Shield program provides for an alternative centralized scheme of processing data from IMEWS satellites at the NORAD CP with subsequent transmission of warning signals to theater [TVD] installations.

In 1992 the Air Force command let a $24.5 million contract with Aerojet to develop the CTPE (Central Tactical Processing Element) system for processing data from IMEWS satellites and other assets (including theater [TVD] radars) on low-signature targets such as aircraft and missiles with low-intensity engine exhaust flare emission and with prompt issuance of data to theater [TVD] consumers. The system is based on a 12-processor computer system with parallel architecture developed by Silicon Graphics and installed at the NORAD CP. System speed is 60 million operations per second, clock frequency is 100 MHz, and subsequently it is planned to increase it to 150 MHz.

In late 1993 it was planned to conduct the first actual tests of the CTPE system with "stereo processing" of measurement data from several IMEWS satellites and with output of warning signals in near-real time. Work under the Talon Shield program is planned to be completed by 1997.

The United States connects a further quality leap, which will permit expanding the class of targets detected and tracked and increasing sensitivity and reliability of the space warning system, with development of new-generation satellites, which will replace existing satellites after 2005.

Work to create a new ballistic missile launch warning system has been under way since 1979 in parallel with modernization of the IMEWS system. U.S. specialists believe that possibilities for further improving onboard gear of existing satellites have been exhausted to a considerable extent. The potential sensitivity of sensors and accuracy of a fix on missiles being launched are limited by the design scheme adopted in the late 1960's in developing satellites (scanning by rotating the telescope) and by the low rate of scan of the Earth's surface.

Advanced satellites were being created in various years under the AWS (Advanced Warning System), BSTS (Boost Surveillance and Tracking System) and FEWS (Follow-On Early Warning System) programs, but these projects did not get to the stage of full-scale development due to the high cost and risk connected with the introduction of new technologies for creating multiple-element, matrix photodetectors which perform a continuous scan or high-speed scan of the entire Earth's surface and with the introduction of light, large optics and data processing systems aboard satellites.

Research under the AWS program was conducted on order of the U.S. Air Force during 1979-1984. The possibility was studied for the first time of tracking the operation of several ballistic missile stages with the help of matrix photodetectors with tunable optical filters simultaneously in several frequency bands of the optical spectrum. Data were to be transmitted directly to theater [TVD] consumers after onboard processing. As an additional task, it was planned to accomplish the detection and tracking of airborne targets in the medium-wave region of the IR spectrum.

After work began under the SDI (Strategic Defense Initiative) Program, the AWS was reoriented in 1984 for creating the BSTS system, which was viewed as the first element of a multi-echelon ABM defense system. It was proposed that the new system would support the detection of a mass ICBM launch under conditions of wide use of countermeasures, including nuclear countermeasures, and would output preliminary target designation data to the ABM defense battle management and communications system with an accuracy of around 1 km. Onboard processing gear would have a high degree of radiation protection and would reduce the data flow rate from several hundred megabits per second to tens of kilobits per second.

Two groups of firms headed by Lockheed and Grumman respectively were conducting competitive development of new satellites, on which around one billion dollars were spent. The first project envisaged use of a less expensive scanning telescope. Grumman rejected the scanning principle and developed a focal matrix of 2,000 modules, each of which contains around a million sensing elements. Both firms used mercury and cadmium tellurides in fabricating the matrix, and ceramics, beryllium, and silicon carbide for the telescope mirror, which was around 1 m in diameter. It was planned to make wide use of ultraspeed radiation-resistant microcircuits as onboard processors.

An external view of the satellite developed by Grumman under the BSTS program is shown in Fig. 2. A characteristic feature of the satellite, which weighs 5.4 t, is use of a triple-axis stabilization system, an optical system with three-mirror telescope, and a unified module combining photodetectors, processor and thermal regulation system radiator. The program was shut down in the early 1990's due to duplication of main functions by the BSTS and Brilliant Eyes systems and due to its high cost, which was unacceptable after the cold war ended. But the main engineering solutions obtained in the course of the work have been preserved in subsequent projects.

Competitive design of the new FEWS system began in July 1992 by order of the U.S. Air Force; it was carried on by two groups of firms headed by Thomson-Ramo-Wooldridge and Lockheed (the contracts are worth $240 million each).

Requirements for the new system now were formulated with consideration of the experience of the war against

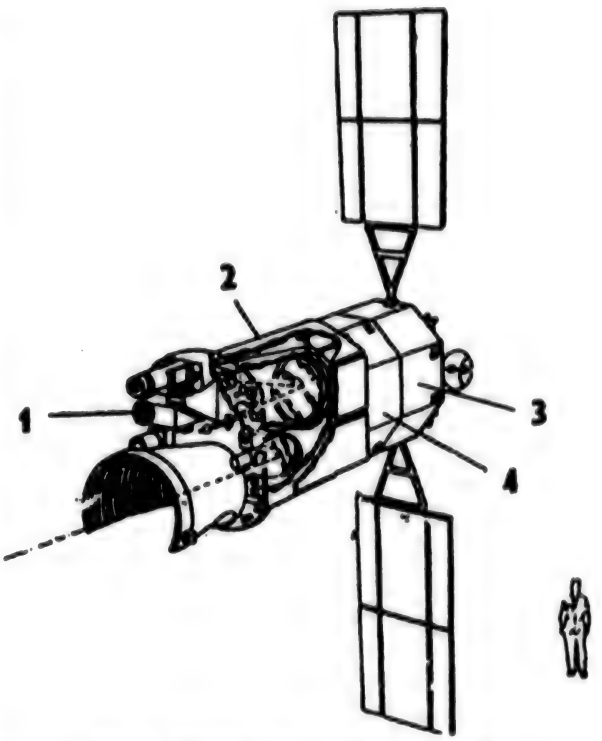


Fig. 2. External view of BSTS satellite:

Key:
1. Module with photodetector matrix and subsystems for thermal regulation and data processing and transmission
2. Payload module with optical telescope
3. Service subsystems model
4. Motor compartment

Iraq and the wide proliferation of intermediate-range missile weapons expected in the world by the end of the 1990's. It was presumed that the advanced system, whose deployment was supposed to begin in the 2000's, would support detection of ICBM and operational-tactical missile launches on a global scale and full onboard data processing and prompt data transmission to the theater [TVD]. Specialists believe that because of the application of the stereo processing principle, the area where the system calculates a mobile operational-tactical missile launcher is located will be the size of a "stadium, and not a city," as is the case for the present-day IMEWS. The onboard processors also are intended for eliminating background emissions and false returns, and the use of intersatellite communications gear will permit rejecting the use of ground systems outside of U.S. territory.

The FEWS advanced satellite system project developed by Thomson-Ramo-Wooldridge and by Grumman (Fig. 3) weighs 3.1 t and, like the BSTS program satellite, has a triple-axis stabilization system and multiple-element

photodetector matrix installed in the focal plane of a telescope with a three-mirror optical system. Competitive design of the FEWS system was stopped in November 1993 at the request of the U.S. Defense Department because of high cost (around $11.7 billion for the period 1995-2019), lack of conformity to specifications and performance characteristics placed on it, and the changed military-strategic situation in the world.

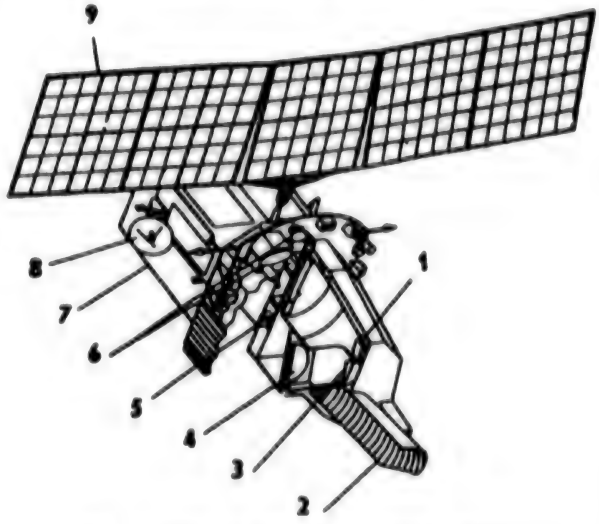


Fig. 3. Advanced FEWS program satellite:

Key:
1. Focal plane with photodetector matrix
2. Telescope hood
3. Secondary telescope mirror
4. Primary telescope mirror
5. Tertiary telescope mirror
6. Intersatellite communications radio link antenna
7. Service subsystems compartment
8. Radio link antenna for data transmission to Earth
9. Solar battery panels

In 1995 the U.S. Defense Department proposes to begin development of the new ALARM (Alert, Locate and Report Missiles) space system for detecting ballistic missile launches, intended for detecting the launches not only of ICBM's and SLBM's, but also tactical, operational-tactical and cruise missiles as well as flights of high-altitude aircraft. U.S. experts believe that in the next few years this will become one of the main tasks for the advanced space system for missile launch detection, which is to provide prompt communication of data to consumers in support of the theater [TVD] ABM defense organization.

According to the concept being advanced by the Pentagon, the advanced ALARM system is to hold an intermediate position in characteristics between the existing IMEWS and rejected FEWS systems, with the possibility of phased improvement of its gear as new technological solutions are worked out and characteristics of the FEWS system are brought up to design characteristics.

It is presumed that ALARM satellites will have less cost and capabilities compared with FEWS, but better characteristics than present-day IMEWS satellites for detecting operational-tactical and tactical missiles. The following are the principal directions for lowering its cost:

- combining ALARM and IMEWS ground systems, as a result of which the need for creating costly ground stations disappears;
- supporting detection of tactical and operational-tactical missile launches only in two regions of the Earth instead of global coverage as for the FEWS system;
- rejecting the installation of instruments aboard the advanced satellites for detecting nuclear explosions (accommodated on NAVSTAR satellites) and gear for onboard data processing and intersatellite communications (which satellites of the first models have);
- using medium class booster rockets instead of costly Titan IV heavy rockets (around $300 million).

As a result of the proposed measures, the cost of developing the ALARM system can be around one billion dollars during 1995-1999 instead of the five billion planned to be allocated for creating the FEWS system in this same period.

In case of U.S. Congressional approval of the ALARM project, it is planned to carry out competitive preliminary design work during 1995-1997 and to begin full-scale development in October 1997, as a result of which the first satellite may be inserted into geosynchronous orbit in 2004.

The ALARM project already now is coming under harsh criticism. According to U.S. Congressional Budget Office estimates, the cumulative cost of the life cycle of the ALARM and FEWS systems during 1995-2019 is approximately $11.3 and 11.7 billion respectively, and the former's capabilities are substantially lower. U.S. Defense Department specialists assert that the main saving (compared with FEWS) will be achieved in the next decade beginning with the fourth model (after 2007) as a result of the technology of manufacturing onboard gear having been upgraded. The U.S. Congress will make the final decision on work under the ALARM program at the end of the current year.

Questions of operation and upgrading of the space missile launch detection system presently are acquiring political coloration. In view of the fact that such costly systems, created only in the United States and Russia, are losing importance as the first echelon of a strategic warning system with the end of the cold war, the American side is examining questions of presenting satellite data to other countries for detecting operational-tactical missile launches during local conflicts.

IMEWS system data already have been transmitted to Israel in 1993, for example, during the delivery of strikes by U.S. cruise missiles against Iraqi targets (for timely detection of possible retaliatory launches of operational-tactical missiles by Iraq against Israel). Options are being considered for presenting warning data to South Korea, Japan and European countries in case a threat of delivery of missile strikes appears on the part of North Korea, China or the Arab states. Such data will be provided along with deliveries to these countries of very costly components of theater [TVD] ABM defense systems (Patriot systems or their more advanced versions). As the missile launch detection system is developed further, its ground receiving complexes will become an important part of advanced theater [TVD] ABM defense systems.

Footnotes

1. For more detail on the IMEWS system see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 6, 1992, pp 51-57—Ed.

Aerial Reconnaissance in Regional Armed Conflicts

95UM0227D Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, 1994 (signed to press 8 Dec 94) pp 28-33

[Article by Colonel A. Krasnov, doctor of military sciences, professor, under rubric "Air Force"]

[FBIS Translated Text] The correlation and disposition of forces in the world changed substantially following the Soviet Union's disintegration and the termination of global confrontation between the two systems, socialist and capitalist. Western military specialists assume that the deep economic crisis, lengthy political struggle and general social tension in CIS countries weakened the former chief enemy for a long time. Therefore although the likelihood of a large-scale war being initiated against Russia exists, it does so only potentially, and regional wars and armed conflicts which may arise in various regions of the globe move to the foreground.

It must be noted that despite the obvious nature of changes which have occurred, foreign analysts did not at once realize their influence on aerial reconnaissance requirements. For a certain time only individual and at times contradictory views, opinions and forecasts were expressed in pages of the foreign press.

Now the majority of aviation experts of the United States and other NATO countries assume that the basic principles of aerial reconnaissance developed in the period of global confrontation for conditions of waging war with the chief enemy and for local conflicts largely do not conform to the present state of affairs. In this connection a need has matured for revising a number of conceptual guidelines on which the Air Force relied in organizing and conducting aerial reconnaissance.

The basis for such opinions above all is the fundamental distinction of regional from local wars (conflicts). In local wars armed struggle is conducted between two or several countries in an area of limited space, and in regional wars it is between several large states or their coalitions. This unquestionably affects the quantitative and qualitative characteristics of personnel and equipment of the participating sides. Not only will separate formations, units, and irregular paramilitary detachments figure among the reconnaissance targets, but large troop elements as well. Its conduct will require a different makeup of forces and a different organization.

Unpredictability of appearance and close interrelationship with armed conflicts are features of regional wars. Rather numerous and difficult to monitor and forecast in terms of consequences, armed conflicts may lead to the appearance of new centers of tension and grow to the scale of a regional war. A period of confrontation also will not always occur. This means that military departments of countries do not have reliable data available as to when, where (in mountainous areas, in vast deserts or in the tropics) and with whom it will be necessary to fight. In that case the enemy becomes integrated and consequently also more uncertain.

A "nonlinear" battlefield, exposed flanks, unprotected rear and center-of-resistance nature of sides' operations, where battles arise first in one, then in another place, are characteristic of armed conflicts above all, and if aerial reconnaissance does not present objective situation data in time, this is fraught with the most serious consequences.

In the opinion of the military leadership of leading western countries, in order to identify destabilizing factors and possible threats "to vital interests" of the United States and NATO, aerial reconnaissance must have the following indicators: high mobility and readiness for emergency movement of its assets to operational tasking areas over great distances in short time periods; possibility of conducting observation under different physical-geographic and climatic conditions; capability of collecting data from places where tension is growing in the absence of a state of war (or conflict), but in the presence of actual preconditions therefor.

Changes in aerial reconnaissance requirements are reflected in the content of reconnaissance missions. Methods and tactics will remain essentially unchanged, since their arsenal is rather rich and diverse. We are speaking only about an improvement of tactics as new aircraft are created, as the enemy air defense system is strengthened, and under the influence of other factors. But without rejecting the experience accumulated in numerous local conflicts, military theorists note the need for a further expansion in the range of reconnaissance missions. The latter are formulated as applied to a period when there is not yet an immediate threat and when there is no specific enemy or preconditions for the movement of armed forces to threatened areas and for subsequent initiation of military operations.

Reconnaissance missions which must be accomplished in a period preceding regional wars include the following: identifying signs of preparation for them; collecting data on the work of and products manufactured by major enterprises of the military-industrial complex, about power supply systems and about other infrastructure installations; uncovering air defense system installations; and collecting data on the physical-geographic and climatic conditions of various regions.

Areas of the appearance of regional wars are forecast based on a possible destabilization of the international situation at a regional level. U.S. political scientists and analysts include among them so-called traditional "zones of instability": the Near East, Persian Gulf area, South and Northeast Asia, the Balkans, and certain regions of the former Soviet Union. They must be under constant observation of all kinds of reconnaissance, and the period of its conduct may be very lengthy or even have no time frames at all.

It is recommended that reconnaissance missions be performed in accordance with rules of international law without violating the borders of contiguous states, but it is acknowledged that this is not always possible. The circumstance is enormously more important that objective data be presented to the supreme military leadership permitting a timely and adequate reaction to crises at the planet's "hot spots."

From the moment troop contingents are moved to a conflict area until the beginning of military operations, aerial reconnaissance missions may be to update specific strike targets and classify them by degree of importance. Priority targets include command and control centers, mobile operational-tactical missile launchers, and SAM system positions. In addition, final reconnaissance of targets already identified earlier and keeping an eye on enemy activity at airfields, on lines of communication and in troop concentration areas is conducted vigorously to ensure that the first massive strike is sufficiently powerful and would immediately deprive the opposing side of the possibility of resistance.

In subsequent stages of the development of regional wars (holding back enemy invasion forces and building up one's own combat might, defeating the opposing side, ensuring postwar stability), aerial reconnaissance missions continue to be the search for and final reconnaissance of targets, participation in reconnaissance-strike operations and monitoring strike results.

Foreign military analysts take a somewhat different approach to determining aerial reconnaissance missions in armed conflicts (or individual actions) which are not escalating to the scale of war, but entail use of military force. Here they rely on the rather vast experience of participation by armed groupings of the United States and NATO in localizing and resolving conflicts in Panama, Grenada, Somalia, Yugoslavia and other countries. It is taken into account that it is not major troop elements, but separate formations and units that are brought in to eliminate them. They encircle, destroy and seal off the opposing side's main groupings, oppose replenishment of personnel and combat equipment, and defend rear-area logistic support bases and supply points against sabotage in danger zones. Operations by aircraft, which may deliver strikes against targets only episodically, but which primarily conduct aerial reconnaissance (observation), also are of lesser scale.

Under such conditions, reconnaissance missions are the following: searching for places of concentration of enemy groupings and constantly tracking their actions; identifying the approach of reserves; establishing the nature and degree of damage of infrastructure installations in a conflict zone; and updating the position of friendly troops.

But based on the experience of armed conflicts, aerial reconnaissance capabilities for performing the above missions generate serious misgivings in the U.S. command element. Above all this concerns the difficulty of identifying small paramilitary detachments, bandit formations, depots and individual models of combat equipment that are difficult to make out from the air. And it is especially important to take into account a number of political, social, economic and military-tactical factors, without which it is impossible to forecast the development of events in potentially explosive areas and consequently also react adequately to conflict situations that are arising. For these reasons even the most precise, reliable aerial reconnaissance data need to be checked and rechecked using information obtained from local authorities, the population and from other sources.

The conduct of peacemaking actions under UN aegis for maintaining peace and stability in "hot spots"[1] posed certain fundamentally new missions for aerial reconnaissance. Based on experience of employing NATO forces to settle the Yugoslav crisis, military analysts include the following among them: keeping an eye on the separation of quarreling parties and discovering areas of operation of illegal groupings, their order of battle and armament; identifying provocational actions and a particular side's preparation to violate an armistice; monitoring the conduct of a naval and air blockade of a conflict area; determining and updating locations for delivery of humanitarian cargoes; supporting the selection and plotting of safe routes; creating buffer zones; and monitoring restoration of a destroyed infrastructure.

The diversity of new aerial reconnaissance missions, which substantially supplemented previously known ones, and the specifics of their fulfillment in regional wars and armed conflicts are fraught with a number of problems which previously did not arise or were of secondary importance.

Great significance is attached to supporting the rapid movement of aerial reconnaissance assets to a given region. Western experts admit that the structure of reconnaissance which took shape during the cold war does not conform to the existing geopolitical situation

and the intensifying instability of the situation in various regions. This is why, in their opinion, it is necessary to develop a new structure which will permit conducting aerial reconnaissance of previously unknown territory and will be integrated with other kinds of reconnaissance and function in support of multinational force elements when questions of the compatibility of command and control systems have not been resolved. NATO countries do not possess such a reconnaissance system for now. It is also necessary to create more flexible organizational forms of employing reconnaissance units capable of operating autonomously in isolation from their bases in performing a wide range of missions.

Under the conditions at hand, the military leadership's efforts are aimed at seeking ways to overcome the separateness of reconnaissance assets. One way is to develop a highly integrated system for automated distribution of reconnaissance forces and assets by regions and axes in accordance with the degree of military threat and with the number and priority of targets, including preliminary preparation and assignment of missions to reconnaissance aircraft crews.

Another way of solving this problem is to further integrate airborne and space-based reconnaissance systems, and in support not just of the strategic echelon, but also the operational and even the tactical echelon. The first experience in successful use of such a combined aerospace system based on joint use of U.S. reconnaissance satellites and strategic reconnaissance aircraft was gained during the Persian Gulf war. In the specialists' assessments, this system simply is irreplaceable in situations where it is impossible to forecast the place where a military threat will appear or when the area of expected operations is rather vast.

The possibilities of concentrating aerial reconnaissance efforts of several countries in a conflict zone and the procedure for command and control and for inputting data to command and control systems are being studied along with this.

Within the framework of a highly integrated reconnaissance system, its combination with the most diverse information sources appears possible. For example, before the beginning of the war in Iraq the multinational forces [MNF] command element was comparing aerospace reconnaissance data with results of interviews of scientists and specialists who had visited Iraq recently, and also of representatives of firms which built various installations there.

Increasing the flexibility of employment and universalizing reconnaissance assets, from which it is possible to quickly form nonstandard table of organization structures adapted to conditions of a specific situation in a particular region, is considered to be one other way of solving this problem. Composite air wings with a high level of manning and professional training of all specialists are most suitable for this. Their makeup includes military transport aircraft and aerial tankers for independent, swift rebasing to remote areas, including with poorly developed infrastructure. The presence of groupings of U.S. reconnaissance aircraft permanently deployed in Western Europe and the Pacific will facilitate such a maneuver.

The problem of sufficiency is considered to be one of the most serious for the immediate decade. It is being solved today against the background of a reduction in military expenditures, which gives it special acuteness. Foreign military analysts note that there has not yet been a single war or armed conflict where reconnaissance assets turned out to be sufficient. In planning aerial reconnaissance in the Persian Gulf area, preliminary calculations of the U.S. Air Force staff indicated it was necessary to deploy six squadrons of RF-4C tactical reconnaissance aircraft, but only 1.5 squadrons managed to be formed. As a result, the daily number of sorties by crews exceeded the standards, and in one sortie they had to photograph up to 30 targets instead of 6-8, which led to a great physical overload of pilots and as a result to a deterioration in the quality of performance of reconnaissance missions.

The insufficient number of reconnaissance aircraft was made up for by drones. They supplied information chiefly on stationary targets, determined the degree of their destruction after air strikes, and were used to search for Iraqi mobile operational-tactical missile launchers. In the latter case the results naturally were considerably lower than with the use of manned reconnaissance aircraft.

In the assessment of western specialists, the integration of reconnaissance systems and thorough reconnaissance planning will permit performing missions with fewer personnel. The U.S. Air Force command proposes a more rational way of reducing reconnaissance forces to a reasonable minimum, i.e., reducing the number of reconnaissance aircraft types and selecting the most effective ones. True, specialists take a very cautious approach to this, since a system of aerial reconnaissance assets was used in the war against Iraq: TR-1 strategic reconnaissance aircraft (Fig. 1 [figure not reproduced]), RF-4C tactical reconnaissance aircraft, and drones. In addition, combat aircraft crews were used to perform reconnaissance missions.

Just what kind of reconnaissance aircraft is the most rational? Foreign experts respond that it is the one which can be used in any region with a takeoff from air bases located in the continental United States. Such a strategic reconnaissance aircraft (codenamed Aurora; presumed appearance shown in Fig. 2 [figure not reproduced]) is being created in the United States. It is expected to be capable of operating at hypersonic airspeeds (Mach 5-6) at altitudes of around 36 km, which means it will be capable of obtaining necessary data quickly and will be relatively invulnerable to enemy air defense weapons.

But in the assessment of western experts, such aircraft, which are intended for large-scale wars, will not be able

to perform all reconnaissance missions and will be too costly for local conflicts. It was the high operating costs that explained the removal of Aurora's predecessor, the SR-71, from the inventory. Therefore it must be supplemented by operational-tactical aircraft, above all aircraft having a low level of revealing signs.

With a reduction in the U.S. Air Force budget and in budgets of other western air forces, as well as a reduction in the number of aircraft, military specialists assume the problem of sufficiency of reconnaissance assets can be solved by mass development of inexpensive drones. According to their forecasts, in the near future western countries will produce up to 30,000 craft of various types, and the production peak will come in the year 2000. It is emphasized that despite reductions in appropriations for military purposes, the United States has sufficient financial and economic resources for creating that number of drones within the planned time periods. The press reports that two types of reconnaissance drones are being developed: the first is for reconnaissance in the tactical zone in support of divisions and brigades, with real-time transmission of video data; the second is for reconnaissance in remote regions.

The problem of increasing the reliability of information becomes especially pressing with the reconnaissance and identification of small, mobile targets and in monitoring air strike results. The experience of the Persian Gulf war serves to confirm this. Reconnaissance has shown its positive side when data on stationary targets were required, and the negative side when reliable information was needed on mobile targets. Thus, it did not manage to establish the precise number and location of Iraqi missile systems which were delivering strikes against targets in Israel and Saudi Arabia throughout the entire war. MNF strike aircraft waged a battle against them, and not always an effective one.

It is no less difficult to identify targets and troops of quarreling sides, especially in armed conflicts and UN peacemaking operations. It is not just a matter of skillful maskirovka [lit. "camouflage", however, includes "concealment" and "deception"—FBIS] and disinformation, but also that the sides often are using one and the same piece of Soviet-made combat equipment, for according to foreign press data, over 40 countries are purchasing tanks, missile systems and aircraft from Russia. Therefore aircraft of both sides have only the IFF system to rely on, and its effectiveness is not always high enough. Special beacons operating in the IR band and various electro-optical equipment which will be used to mark friendly troops presently are being created.

With respect to low reliability of monitoring air strike results, especially results of mass strikes, foreign analysts refer to the experience of past wars, and in particular to the official account of data collection in the 1991 war in the Near East prepared by the U.S. House of Representatives Armed Services Committee. It states that "the greatest deficiency in the reconnaissance area was lack of precision in estimating damage inflicted on the enemy, which often was considerably exaggerated."

Specialists see ways to increase information reliability by increasing the proficiency not so much of the crews as of personnel engaged in collecting and summarizing information, and by strengthening the leadership's organizing role and responsibility for data being presented.

The solution to all other problems facing reconnaissance aviation is connected with a high level of professional training of personnel of reconnaissance aviation units. What is new here is the direction of training of staff officers and flight crews. While main emphasis previously was placed on studying "potential Russian targets" and their air defense, chief attention presently is being given to developing a so-called "global outlook" in personnel, i.e., a readiness to conduct reconnaissance in any region or, more precisely, in a "zone of instability." In the opinion of the heads of western air forces, such an "outlook" on the one hand will contribute to a more substantiated estimate of the status of the country being reconnoitered and degree of immediate threat, and on the other hand it will assist flight crews in "taking root" in the situation faster and seeking out and identifying targets in a little known region more confidently.

Questions of personnel training are being subjected to thorough analysis and changes are being made in the training process in light of new requirements. In particular, trainees are being familiarized with features of flight operations in areas with differing physical-geographic and climatic conditions and they are studying the infrastructure in "zones of instability," models of military equipment of developing countries, and revealing signs of typical reconnaissance targets.

Greater attention has begun to be given to keeping unit personnel in a high readiness condition for immediate movement to threatened areas with the appearance of crisis situations. Scenarios (options) are developed for this which later are optimized according to appropriate criteria, and daily drills are conducted on their basis.

Western military specialists consider it to be extremely dangerous to postpone the above problems to a subsequent period, since the difficulty and cost of their solution are growing constantly. Evidently the U.S. Defense Department also is being guided by the very same considerations in distributing appropriations according to the military budget, assuming that well organized reconnaissance will serve as a reliable guarantee against unexpected, unpunished and irresponsible actions on the part of any totalitarian state or forces of international terrorism whatsoever.

Footnotes

1. Provisions concerning troop participation in peacemaking operations were included in the U.S. Army FM 100-5 Field Service Regulations in 1993.

China's Military-Technical Science

95UM0227B Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, 1994 (signed to press 8 Dec 94) pp 11-13

[Article by Colonel V. Stefashin, candidate of military sciences]

[FBIS Translated Text] Military-technical science, which in China is a component part of military science,[1] plays an important role in developing the country's military potential. Its chief task is to develop modern weapon systems and upgrade existing means of warfare. The Chinese leadership strives to create all necessary conditions for developing military equipment that concedes nothing to world standards.

Basic and applied research is conducted within the framework of military-technical science. Basic research involves a search for fundamentally new means of warfare, which as a rule use nontraditional principles of effect on a target. Modern methods of assessing combat and military-economic effectiveness, survivability, and duration of functioning and operation of weapons and equipment are developed and problems of their design and of laboratory, range and troop tests are solved in the applied research area.

Since the mid-1980's five main directions have stood out in Chinese military-technical science:

- "basic theories research," conducted in such areas as theories of power plants, various engines, powders, submunitions, automated command and control and so on;
- "weapon system elements research," connected with the development of models of weapons, guidance and launch subsystems, as well as other technical devices installed in tanks, aircraft and ships or in models used as individual arms (small arms, field artillery pieces, sights, rangefinders and so on);
- "military equipment systems research," concerning the development of weapon systems as an aggregate of functionally connected models and systems and used together for performing combat missions (SAM systems, aircraft and so on);
- "military command and control systems research," which is connected with the development of command and control systems supporting modern methods of receiving, processing, transmitting, storing and using data for decisionmaking and assigning missions to those responsible for execution;
- "combat support systems research," which considers above all problems of creating engineer support equipment as well as other logistic support equipment.

China has the so-called "three levels theory" with respect to all RDT&E, which subdivides it into three basic categories: first is all experimental development work presently under way, second is scientific research, and third is advanced research. It is believed that in this way it is possible to ensure a connection of work at different stages and preserve continuity of scientific-technical development.

Chinese specialists formulated a number of specific principles reflecting many regularities of organizational development of the Chinese People's Liberation Army [PLA], which are of very great importance for effective, purposeful research in the area of military-technical science and acceleration of military reform.

The fundamental principle is a direct linkage of the development of science and technology, including military science and technology, with the possibility of China attaining a "worthy place in the world" and fulfilling the long-range political goal which has been set of turning the country into a superpower. The military-political leadership assumes that a growth of military might now should be accomplished above all not through quantitative, but through qualitative indicators. After an analysis of results of the Persian Gulf crisis, this view on the PLA's organizational development should hold the chief place in the country's military policy.

The second principle is the consideration of national specifics in the area of development of military-technical science. Chinese researchers should proceed from the state's main interests and correctly determine the correlation of economic and defense organizational development. The development of military-scientific and military-technical potentials should be based on a statewide program for development of science and technology. It is believed that the most substantial contribution to building up the country's military-technical potential can be made by research in such areas as microelectronics, propulsion engineering, optical, digital and fiber communications, quantum electronics, space engineering and space detection and ranging [lokatsiya].

The third principle is connected with conversion of military-technical science. Development of the defense scientific-technical potential must accelerate the appearance of new commodities, equipment and technologies in the country's national economy. Therefore the requirement placed on military-technical science is that it serve the interests not only of military organizational development, but also development of the economy, and that it focus main attention on projects which can produce the greatest advantage in compressed time periods.

Creating a "dual purpose" scientific-technical system envisages eliminating the closed nature of military research and widely using military RDT&E achievements in civilian sectors. The content of conversion in military-technical science includes three aspects: transferring results of military scientific-technical research to civilian sectors, introducing military production know-how to the economy, and giving recommendations on applying foremost methods of military RDT&E management to the national economy.

Various forms of stimulation and incentives are put into practice to activate this process. In particular, defense scientific research establishments are permitted to set prices on equipment and on the kinds of services provided to a civilian client on a contractual basis (such transactions are not taxed); the use of a portion of the profit as an incentive for associates who have distinguished themselves is sanctioned. Independence of research organizations as well as the rights of their directors and project heads have been expanded. Establishments can independently resolve questions of planning, financing, personnel transfers and organizational structure in all cases not connected with state assignments.

The basis of the fourth principle is the requirement to take the country's limited economic capacities into account, "conduct scientific-technical research on principles of diligence and thrift," and perform a greater volume of work with least costs. Leadership personnel of Chinese scientific research institutes are required to step up a search for ways to shorten periods of research and production of scientific products.

The fifth principle—independence and self-dependency, i.e., "reliance on one's own efforts"—is formulated based on the overall international situation and characteristic features of development of military-technical science in China, but this should not signify the isolation of Chinese scientists and designers. They are insistently required to master "both old achievements of natural sciences of capitalist countries as well as modern discoveries," actively borrow foremost foreign engineering, and master the technology of producing the best world models of arms.

The sixth principle is the concentration of all assets for accomplishing several major projects of strategic importance. It is based on specific advantages of the PRC over other countries such as centralized leadership and planning, unified policy, thorough organization, and comprehensive cooperation at all levels and at all three echelons—party, administrative and scientific-technical.

The methodology of leadership of military-technical science having "Chinese specifics" consists of using "two leadership echelons" in RDT&E. The first echelon, technical leadership, bears full responsibility for technical problems; the second, administrative, engages in overall direction and the resolution of all administrative problems. These two echelons closely interwork and together ensure fulfillment of RDT&E tasks. With respect to party workers and party organizations, their duties are to create maximum possible favorable conditions for work and to mobilize the activity of both leadership echelons, not undermine them.

The PRC military-political leadership believes that specifically because of this principle the country, under difficult socioeconomic development conditions, made a breakthrough in a relatively short time in the technology of creating the atomic and hydrogen bomb, the ICBM, the satellite, the nuclear powered submarine, and in other areas.

The high professionalism of scientific-technical workers is singled out as the seventh principle of development of military-technical science. In the opinion of Chinese specialists, a most advanced war, a "war of minds," presently is being waged. Development of a modern style of thinking, improvement of professional skills, and an increase in creative activeness of scientific-technical cadres are encouraged in every way. Their training along with achievement of specific results in scientific work is one of the chief tasks.

The eighth principle is proper resolution of the question of the correlation of democratism in military-technical science and centralized leadership, i.e., developing different scientific schools, views and opinions on specific scientific-technical questions and ensuring freedom of discussions. But in envisaging modern scientific-technical progress as a continuous accumulation and development of collective knowledge, military-technical science not only demands broad scientific discussions, but also a striving for high centralization of leadership and the precise posing of tasks.

The ninth principle, one of the main ones in terms of importance, is connected with the unceasing process of strengthening the ties of research, educational and planning organizations with production enterprises and increasing the capabilities of the latter in questions of developing and mastering new engineering and technologies. The procedure for allocating funds to scientific research organizations was changed to this end; a technology market is being developed through the establishment of various forms of trade in R&D results, in scientific-technical assistance and in services; and a competitive contract system has been introduced.

The contract system affected around 90 percent of scheduled military RDT&E, a portion of which is carried out on a competitive basis, and it involves not only military, but also civilian establishments. In the opinion of Chinese specialists, introduction of a competitive contract system eliminated the military sector's monopoly in RDT&E and created a new situation in the area of military-technical competition in which civilian and military organizations now take part with equal rights; this already has produced positive results.

Military-technical science has achieved specific results in providing the PLA with modern kinds of weapons and equipment. In the area of arms for Strategic Missile Troops, tasks are being accomplished to create and develop solid-propellant ballistic missiles (including ICBM's). Development continues on tactical and operational-tactical nuclear weapons for the ground troops. Main attention in the conventional arms area is focused on developing precision weapon systems. It is planned to outfit the army with new tanks, self-propelled artillery systems, antitank systems, SAM systems, and army aviation helicopters.

The Air Force plans to replace platform aircraft with more modern types and equip them with nuclear-warhead air-to-surface cruise missiles that are being developed. A significant reduction in the number of obsolete combat aircraft is expected in connection with renewal of the air fleet. Development of new-generation long-, medium- and short-range SAM systems is under way.

The Chinese Navy leadership set the task for the General Shipbuilding Company "to experiment more and build less, and in the military RDT&E area to focus all attention on creating fundamentally new design projects and a technological base which would permit beginning future series production of ships conforming to 21st century requirements." In the next few years it is planned to commission a new nuclear powered missile submarine with 16 launchers. Active RDT&E is under way in the area of creating various types of new combatant ships and craft. According to foreign press reports, China has begun working out plans for building two aircraft carriers.

Among RDT&E in other areas, special attention is being given to the development, production and introduction of laser weapons and laser-based technical equipment. Chinese specialists believe that the level of theoretical research achieved as of the present time, the experimental base, and the qualification of scientific-technical cadres permit creating weapon systems in the PRC using laser engineering achievements.

Footnotes

1.This article continues a series of articles on China's military science. See ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 1, 1994, pp 12-14; No 4, 1994, pp 17-20; and No 6, 1994, pp 17-21—Ed.

Czech Military Reforms Noted

95UM0292B Moscow NEZAVISIMOYE VOYENNOYE OBOZRENIYE (supplement to NEZAVISIMAYA GAZETA) in Russian No 1, Feb 1995 p 1

[Article by NEZAVISIMAYA GAZETA Eastern European Bureau Correspondent Aleksandr Kuranov, under the rubric: "Reform": "Modernization of the Czech Armed Forces: Closer Than the Rest to NATO"]

[FBIS Translated Text] The Czech government recently adopted the republic's military strategy concept. In contrast to the previous concept, already since federal times, it assumes not defense against attack from any side but is oriented to the maximum extent possible on cooperation with NATO. Wording on possible causes of armed conflict in the region due to the growth of instability in the CIS or other post-Communist countries were toned down in the latter variant of the concept. It assumes a further reduction of the composition of the Armed Forces that currently totals 70,000 men—one third of the 1989 level. Annually, 2.5 percent of GNP will be allocated to the defense sphere. They have decided to reject the idea of professionalizing the army.

During the last five years, the Czech Army has undergone a serious transformation. Many officers and warrant officers were released into the reserve due to political unreliability or weak professional skills and others preferred the service of entrepreneurship. Right now the number of senior officers is three times larger than the number of junior officers which have been replenished by only two-thirds. In the opinion of Irzha Nekvasil [transliterated], chief of the general staff, one third of the officers would welcome a return to socialist times. Compulsory service lasts one year and it is increased to two years for those who have chosen its civilian variant—primarily in the role of male nurses. The prestige of the army is quite low on the whole among the population. The wide prevalence of "dedovshchina" [hazing of conscripts] affects this and frequent curious accidents both with the leaders of the department and in the recent case with guards of the Ministry of Defense building who were robbed while sleeping on post.

The last three years were spent first and foremost on the division of the federal Armed Forces of the former Czechoslovakia and the corresponding new location of the Czech Army on the territory of the republic, the transition from divisions to brigades, and the destruction of excess arms in accordance with the all-European treaties. Therefore, the men and equipment for their modernization are only being released now. They plan to spend 120 billion koruna, that is, nearly $4.5 billion, in the next 10 years for that purpose. Preference will be assigned to new or modernized Czech equipment supplemented by individual foreign components.

The French Navy

95UM0226C Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, 1994 (signed to press 8 Nov 94) pp 44-53

[Article by Captain 3rd Rank V. Zakharov under rubric "Navies"]

[FBIS Translated Text] The French Navy (Marine) is an independent branch of the Armed Forces and consists of the Fleet, Naval Aviation and Marines. They are assigned the following missions: delivery of nuclear missile strikes by SSBN and aviation forces against designated targets, defending the country's territory from the sea, protecting sea lines of communication, and conducting joint combat operations in the European Theater of War and on overseas territories in various areas of the globe. All this presumes working out effective forms of cooperation with NATO Allied Naval Forces already in peacetime, including involvement in exercises and other kinds of combat training.

Overall direction of the Navy is exercised by the minister of defense, under whom there is a Supreme Navy Council, which is a consultative body on questions of

organizational development and combat employment of naval forces and on appointment to command positions of leadership and conferral of admiral ranks. The minister of defense is its chairman and the chief of the Naval Staff is deputy chairman. The Council makeup is approved by the prime minister.

The Navy is directed by the chief of the Naval Staff (commander). He is responsible for developing plans for the Navy's organizational development and employment and for its operational and combat training, and he determines current and future requirements for personnel, combatant ships and auxiliary vessels and directions for creation of new models and production volumes of weapons and military equipment. Subordinate to the chief of staff are a first deputy and three deputies, who at the same time are chiefs of directorates (operations-logistic, planning, shipbuilding programs).

The Naval Staff (Fig. 1) develops plans for waging naval warfare, organizes and monitors operational and combat training of formations and units, determines prospective directions for development of naval forces, and carries out measures for their comprehensive support. Its makeup includes an operations-logistic directorate (three bureaus—operations, logistic support, cooperation and external relations), which is responsible for planning and monitoring operational and combat training of fleet forces, for their operational and logistic support, and for maintaining external relations; a planning directorate (five bureaus—research and advanced planning, finance, Navy personnel and employees, organizational-administrative, and infrastructure installations; and a fleet organizational structure optimization group), which develops long-range and current plans for development and activity of fleet forces and cadre training and assignment, determines fleet operational requirements, including for personnel, and prospects for development of infrastructure installations, and engages in substantiating financial requests and distributing the Navy budget; a shipbuilding programs directorate (five bureaus—surface ship armament, submarine armament, surface ship construction programs, submarine construction programs, communications equipment and information and command and control [C^2] systems; and a

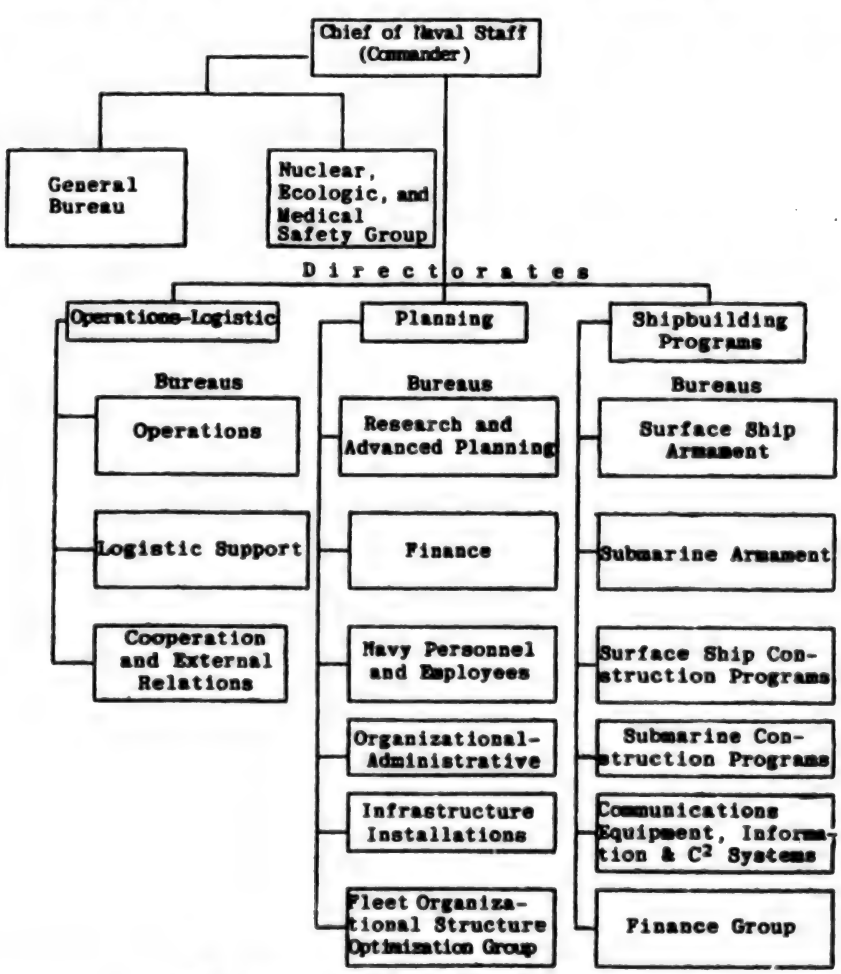


Fig. 1. French Naval Staff organizational structure

financial group), which determines ways and methods of developing and implementing shipbuilding programs and programs for creating arms, and prospects for development of communications equipment and information and C^2systems, and performs an analysis of financial costs of programs and design projects being realized.

A general bureau, which ensures coordination of the activity of directorate entities, and a nuclear, ecologic and medical safety group function under the chief of staff.

Four central directorates (personnel; commissariat, i.e., quartermaster; shore installation construction; shipbuilding) as well as services (naval aviation, hydrography and oceanography, ship tests) are subordinate to the Naval Staff. Entities of central subordination additionally include the office of the chief of the Naval Staff, naval educational institutions, a permanent inventory commission, historical service, central documentation service, and Navy Information Center.

Control over fulfillment of orders and instructions of the chief of the Naval Staff and over the activity of bodies of central subordination is the responsibility of inspectorates (Navy, reserves, commissariat, construction engineering work, medical) and a permanent shipbuilding and ship testing programs commission.

The French coast is divided into two naval districts (Atlantic and Mediterranean) in terms of administrative organization. Their commanders simultaneously are the naval commanders in the Atlantic and Mediterranean respectively.

Organizationally the Navy includes a Strategic Ocean Force and four Navy operations commands (in the Atlantic, Mediterranean, Indian Ocean and Pacific Ocean).

The **Strategic Ocean Force [Force Océanique Stratégique—FOST]** has an SSBN squadron subordinate to it; four SSBN's are armed with M4C and one with M4 SLBM's. The FOST is a very important component of the French strategic nuclear forces. It consists of 3,150 persons, including 1,500 in SSBN crews and 1,650 in command and control and support entities.

Organizational development of FOST is accomplished in accordance with plans for development of the French Armed Forces (Table 1).

Table 1 - Phases of SSBN Introduction to Navy Order of Battle

SSBN Name	Date				SLBM Type
	Laid down	Launched	Transferred to fleet	Operational	
Le Terrible	24 Jun 67	12 Dec 69	10 Oct 71	1 Jan 73	M4C
Le Foudroyant	12 Dec 69	4 Dec 71	15 Sep 73	6 Jun 74	M4C
L'Indomptable	4 Dec 71	17 Sep 74	25 Dec 75	23 Dec 76	M4C
Le Tonnant	19 Oct 74	17 Sep 77	23 Apr 79	3 May 80	M4C
L'Inflexible	21 Mar 80	23 Jun 82	1983	1 Apr 85	M4
Le Triomphant	9 Jun 89	13 Jul 93	.	1996	M45
Le Téméraire	1994	1996	.	1998	M45
Le Vigilant	1995	1998	.	2001	M45
.	1996	.	.	.	M5

The commander of FOST is directly subordinate to the Armed Forces chief of staff in matters of SSBN operational employment and to the chief of the Naval Staff in administrative questions (operational and logistic support, combat training, manning SSBN crews and support forces). FOST headquarters and command post are located in Houilles (a Paris suburb).

The SSBN squadron is the main organizational unit, with headquarters in Roche-Douvres (Brest Main Navy Base). A FOST base has been established to support the basing, combat training, supply and repair of SSBN's; it includes the Ile Longue basing facility, located on the peninsula of the same name in Brest Bay; a ballistic missile arsenal at Genven [as transliterated] (4 km south of the SSBN basing facility); and a crew training center at Roche-Douvres.

The communications center in Rosnay (in the vicinity of Châtillon, Indre Department, 37 km southwest of the city of Châteauroux, is the main center in the SSBN communications and command and control system. It is connected by underground cable communications lines with primary and alternate French Armed Forces command and control facilities and with FOST and Naval Staff command posts. Here there are two 500 kw VLF (14-23 kHz) transmitters. The range of communications with SSBN's is around 9,000 km.

FOST combat employment missions are rehearsed during SSBN combat patrol in the Atlantic and Bay of Biscay. Two SSBN's are constantly at sea. An average of 12 combat patrol deployments are made each year.

Operationally subordinate to the **Atlantic Naval Command** is the Atlantic Submarine Flotilla, a formation of

ASW ships, a formation of mine warfare forces, the Flomanche Patrol Ship Flotilla, a training ship division, squadrons of carrier-based and land-based aviation based at Atlantic Naval District airfields, and the Grufmako [as transliterated] Marine Battalion.

The Atlantic Submarine Flotilla includes six diesel powered submarines and a supply tender. The ASW ship force numbers 5 destroyers, 12 frigates and 1 general-purpose supply transport; the mine warfare forces consist of 13 minesweepers and 5 support ships; and the Flomanche Patrol Ship Flotilla consists of 7 patrol ships, 1 patrol craft and 2 support vessels. The training ship division numbers 15 training ships for giving naval officer school cadets practice.

There is a total of 39 surface combatants and 6 submarines in the Command's order of battle, and 84 combat aircraft and 29 helicopters in Naval Aviation.

Subordinate to the **Mediterranean Naval Command** is the Mediterranean Submarine Flotilla (8 submarines, of which 6 are nuclear powered multipurpose submarines), a surface ship formation (2 multipurpose aircraft carriers, 10 destroyers, 7 landing ships, 2 general-purpose supply transports), the Flomed Mediterranean Surface Ship Flotilla consisting of two divisions of frigates, a division of minesweeper/hunters (a total of 10 combatant ships), and a squadron of carrier-based and land-based patrol aircraft based at Mediterranean Naval District airfields.

The Command's order of battle totals 31 surface combatants and 8 submarines, with 37 combat aircraft and 19 helicopters in Naval Aviation.

The **Indian Ocean Naval Command** includes naval forces and assets in Djibouti and on Réunion Island and a naval task group deployed in the Indian Ocean. Effective combat strength usually numbers up to 6 combatant ships, 4 small combatants and 2 land-based patrol aircraft. Ships of the task group are assigned from the Atlantic and Mediterranean naval commands.

The **Pacific Naval Command** includes Navy forces and assets in French Polynesia and New Caledonia and a group of ships of the Pacific Nuclear Test Center. The overall number of combatant ships and vessels of the Command reaches 15.

According to data of the reference "Jane's Fighting Ships (1994-1995)," the overall numerical strength of naval personnel reaches 64,200, of whom there are 62,100 in the fleet (including 9,900 in Naval Aviation) and 2,100 in the Marines.

The fleet's ship order of battle (regular forces) includes 109 combatant ships and 26 craft. An analysis of service lives of French Navy combatant ships (Table 2) shows that 43 (39 percent) have been operated for 15-20 years or more. The most modern ships are nuclear powered multipurpose submarines and a large portion of the destroyers, frigates, minesweepers, patrol ships and landing ships.

Table 2 - Number of French Navy Combatant Ships in Terms of Operating Life (Years)

Ship Types	Up to 5	5-10	10-15	15-20	Over 20
Nuclear powered missile submarines	-	1	1	2	1
Nuclear powered multipurpose submarines	3	3	-	-	-
Diesel powered submarines	-	-	2	2	4
Multipurpose aircraft carriers	-	-	-	-	2
Destroyers	4	2	3	3	3
Frigates	5	3	9	5	3
Patrol ships	3	9	-	-	3
Helicopter carriers	-	-	-	-	1
Amphibious transport docks	1	-	-	-	-
Dock landing ships	2	-	-	-	1
Tank landing ships	3	3	-	2	4
Minesweepers	1	8	-	1	6

French **Naval Aviation** (Table 3) is divided into combat and auxiliary aviation. Combat aviation consists of carrier-based and land-based aviation (a total of 121 aircraft and 48 helicopters). Carrier-based aviation includes two fighter-attack squadrons of Super Etendards, which are nuclear weapon platforms, a Crusader fighter squadron, an Etendard IVP reconnaissance squadron, two squadrons of Alizé ASW aircraft, three squadrons of Lynx and Alouette III ASW helicopters, two squadrons of Super Frelon assault transport helicopters, and a training squadron, which also has nuclear weapon platforms (Super Etendard). Shore-based aviation numbers four squadrons of Atlantic Mk 1 and Atlantique Mk 2 patrol aircraft. Auxiliary aviation includes nine squadrons of aircraft and three squadrons of various types of helicopters. It is made up of a total of 84 aircraft and 31 helicopters.

Table 3 - French Naval Aviation Order of Battle

Units and Subunits	Number of Aircraft, Helicopters	Type	Home Base
Carrier-Based Aviation			
Air squadrons:			
11th Fighter-Attack	19	Super Etendard	Landivisiau
17th Fighter-Attack	19	Super Etendard	Landivisiau
12th Fighter	12	Crusader	Landivisiau
16th Reconnaissance	8	Etendard IVP	Landivisiau
4th ASW	9	Alizé	Lann Bihoué
6th ASW	9	Alizé	Nîmes Garons
31st ASW Helicopter	13	Lynx	St. Mandrier
34th ASW Helicopter	13	Lynx	Lanvéoc-Poulmic
35th ASW Helicopter	9	Alouette III	Lanvéoc-Poulmic
32nd Assault Transport Helicopter	7	Super Frelon	Lanvéoc-Poulmic
33rd Assault Transport Helicopter	6	Super Frelon	St. Mandrier
59th Combat Training Squadron	9	Super Etendard	Hyères
	4	Alizé	
Shore-Based Aviation			
Patrol squadrons			
21st	6	Atlantic Mk 1	Nîmes Garons
22nd	[illegible]	Atlantique Mk 2	Nîmes Garons
23rd	2	Atlantic Mk 1	Lann Bihoué
24th	6	Atlantique Mk 2	Lann Bihoué
	[illegible]	Atlantic Mk 1	
Separate detachments in zones	2	Atlantic Mk 1	Nîmes Garons
	2	Atlantic Mk 1	Lann Bihoué

The **Marines** are represented by the Grufmako Battalion and five commando companies, which are subordinate to the naval commander in the Atlantic. In addition, there are six separate companies for security of naval installations.

The merchant fleet numbers 890 vessels with an overall cargo capacity of around 4,205,310 gross tonnes.

The French Navy basing system (Fig. 2) includes four naval bases (main naval bases of Brest and Toulon and the Lorient and Cherbourg naval bases) and two basing facilities (Ile Longue and La Pallice). In addition, there is a wide network of seaports (around 50 large and medium ones, including 28 with an annual cargo volume of over one million tonnes), whose size and technical outfitting permits supporting mobile basing and drydock repair of ships of all types.

Brest is the main naval base on the Atlantic coast and a major shipbuilding and repair center. Over 30 percent of the fleet's ship order of battle is based there: formations of ASW ships (18) and mine warfare forces (18), and a training ship division (15). Atlantic Naval Command (Atlantic Naval District) Headquarters is located here as well.

Toulon is the main naval base on the Mediterranean. Up to 50 percent of the fleet's ship order of battle is based there: a surface ship formation, the Mediterranean Submarine Flotilla and the Flomed Flotilla (a total of up to 40 combatant ships). Mediterranean Naval Command (Mediterranean Naval District) Headquarters is located here.

The Atlantic Submarine Flotilla and Flomanche Patrol Flotilla are based at the Lorient and Cherbourg naval bases respectively. They also are shipbuilding and ship repair centers. La Pallice is capable of supporting the basing and drydock repair of ships up to and including destroyers. There are no forces permanently assigned to it.

On the whole, the French Navy basing system is capable of supporting combat and day-to-day activity of large ship formations, both of the French Navy as well as of NATO Allied Naval Forces.

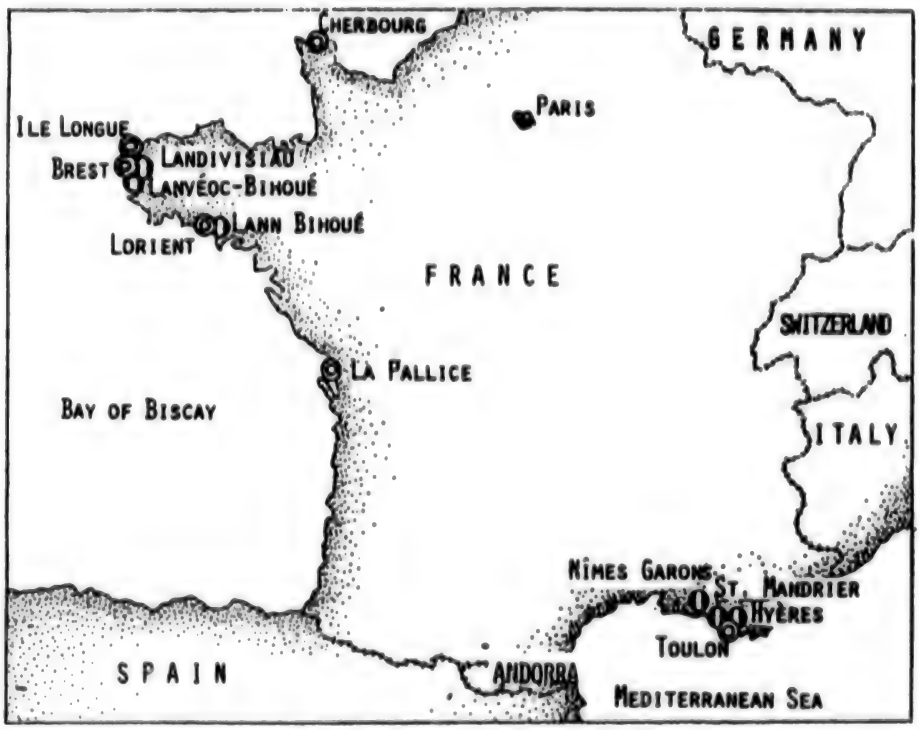


Fig. 2. French Navy basing system

The Navy is manned with rank-and-file (draft age 18 years) and petty officer personnel based on a law on universal military obligation and by recruiting volunteers for long-term contracts (for at least three years). First-term service in the Navy is ten months.

New recruits take basic training at Navy training centers (1.5 months) and main specialty training in naval schools (4-9 months). After receiving a certificate, specialists are sent to units and ships for duty.

Naval officer personnel are manned from officer school graduates, reserve officers, and petty officers who have served at least eight years and have taken appropriate exams. French naval officer personnel are trained in naval schools (two officer schools at Lanveóc-Poulmic, quartermaster school at Toulon and administrative school at Cherbourg). Naval officer schools have been consolidated into a single military educational institution. The schools train officers for ship service and differ only in the procedure for recruiting cadets. The training period is two years. On completion, graduates receive the officer rank of junior lieutenant and train for two years in a practical school for lieutenants aboard the helicopter carrier Jeanne d'Arc. After OJT, officers are sent to ships for further duty.

Officers who have served 2-3 years in the fleet may be sent to various schools for upgrading in the specialty (ship nuclear power plants at Cherbourg, ASW at Toulon, radiotechnical at Porquerolles, gun-missile and submariners at Toulon) or to the nuclear powered submarine crew training center (Brest).

The quartermaster school trains naval quartermaster officers (term of training two years) and the administrative school trains officer of the administrative service (one year).

Naval officers receive higher military education at the Higher Naval School (Paris), which accepts only senior officers. The term of training is two years. Cadres are trained here for work on formation and naval district staffs and on the Naval Staff. Officers receive a higher military-technical education at the Navy Higher Engineering School or Navy Higher Technical School (both in Brest).

Navy operational and combat training is aimed basically at rehearsing combat patrols and employment of SSBN's, keeping naval groupings in a high condition of readiness to perform assigned missions in various ocean areas, and rehearsing the interworking of mixed forces when conducting operations both under national plans as well as plans of the NATO command.

The naval mobilization deployment system envisages introducing ships and aircraft from the reserve to the order of battle in a month's time, manning ships and units with personnel up to wartime strength levels, and receiving a portion of merchant fleet vessels.

French Navy organizational development is conducted in accordance with the Optimar-95 reorganization plan within the framework of the French Armed Forces development program. The military-political leadership attempts to have balanced naval forces meeting requirements of the national doctrine of "intimidation and deterrence." A special place here is set aside for increasing their combat capabilities through a qualitative renewal of all components, above all nuclear powered missile submarines. By 2005 it is planned to fully replace SSBN's presently operational with new Le Triomphant-Class submarines, which subsequently will be fitted with M5 missiles. This will permit increasing combat capabilities of sea-based strategic nuclear forces by 1.5 times.

In 1996 it is planned to commission the lead Le Triomphant SSBN (Fig. 3 [figure not reproduced]), whose construction has been under way since 1989. An order was issued in 1989 for the second submarine of this series (Le Téméraire), whose commissioning is planned for 1998, and an order was issued in 1993 for construction of a third SSBN. It is proposed to allocate financial resources for the M5 SLBM program (planned to become operational in 2005). By the end of 1994, development will be completed and production will have begun on the first series of M45 SLBM's, an improved version of the M4C missile. Le Triomphant-Class SSBN's will be equipped with them until the M5 becomes operational.

The construction of Amethyste-Class nuclear powered multipurpose submarines (modernized Rubis-Class SSN) remains an important direction. The sixth submarine of this design project (Perle) was commissioned in 1993. Construction of a seventh (Turquoise) has been temporarily suspended. In the next few years it is planned to complete work on the design project of a new generation nuclear powered multipurpose submarine, which will have greater speed and diving depth, a lesser noise level and the newest sonar and navigation gear.

In the command element's assessment, fleet striking power will grow considerably with the commissioning of the nuclear powered multipurpose aircraft carrier Charles de Gaulle (Fig. 4 [figure not reproduced]), whose construction is planned for completion in 1999. The new ship's air wing will include up to 40 aircraft and helicopters. The question of building a second such carrier is under consideration.

Further renewal of the ship order of battle also is envisaged through the commissioning of new surface ships, with the simultaneous withdrawal of obsolete ones to the reserve. As an addition to the five Floreal-Class frigates (patrol version) which already have appeared in the Navy order of battle (Fig. 5 [figure not reproduced]), construction of three Lafayette-Class frigates (ASW version, Fig. 6 [figure not reproduced]) and one Floreal-Class frigate is under way. It is planned to build a total of six ships of each class by 1999.

In accordance with a Franco-Anglo-Italian agreement on joint development and construction of a new generation of destroyers, it is envisaged building four such ships for the French Navy, the first of which is to be commissioned in 2004.

Mine warfare forces hold an important place in the shipbuilding program. Construction of a series of ten Eridan-Class minesweeper/hunters is concluding. The first of the new Antares-Class minesweepers was transferred to the Navy in 1993 and commissioning of the second and third is expected in 1994 and 1995.

It is proposed to increase combat capabilities of amphibious landing forces by replacing Ouragan-Class dock landing ships with three new Foudre-Class amphibious transport docks. The first already has been commissioned and the order for building a second was issued in 1993.

Despite a certain reduction in the military budget, the French military-political leadership intends to increase Navy combat capabilities substantially by commissioning ships of a new generation, above all SSBN's and nuclear powered multipurpose aircraft carriers (Table 4).

Table 4 - Expected French Navy Order of Battle in 1995, 2000, 2005

Combatant Ships and Craft	1995	2000	2005
Combatant ships	111	104	97
including:			
Nuclear powered missile submarines	5	5	5
Nuclear powered multipurpose submarines	6	6	6
Diesel powered submarines	6	4	2
Nuclear powered multipurpose aircraft carriers	-	1	2
Multipurpose carriers	2	1	-
Destroyers	16	18	17
Frigates	27	21	19
Patrol ships	15	12	12
Landing ships	17	13	11
Mine warfare ships	17	23	23
Small combatants	26	26	26
including:			
Patrol	1	1	1
Landing	25	25	25

Combat capabilities of French Naval Aviation will grow because of new Rafale M nuclear-weapon-carrying aircraft, which will be operational on the Charles de Gaulle. The Navy will receive 86 aircraft: the first series aircraft in March 1997, 8 by the end of 1998, and the first fighter-attack squadron (15 Rafale M) by July 1999. The others will be delivered figuring 22 aircraft per year.

Super Etendard fighter-attack aircraft in the inventory have been undergoing modernization since 1993, permitting them to be kept operational until 2000. In the course of modernization they are being equipped with AS-30 air-to-surface laser-guided missiles, new radars and an onboard computer system.

On the recommendation of the Naval Staff, the Ministry of Defense leadership decided to purchase three Hawkeye E2C AWACS aircraft in the United States during 1996-1997 for the air wing of the Charles de Gaulle. In the opinion of the French Navy command, in coordination with Rafale M fighter-attack aircraft, these aircraft will be able to provide air defense and antimissile defense of a carrier battle group reliably within a radius of up to 370 km.

To increase the effectiveness of shore-based patrol aviation, it is planned to purchase 28 Atlantique Mk 2 aircraft up to 1996, which have been replacing the Atlantic Mk 1 since 1990. It is planned to renew the French Navy helicopter fleet by taking into the inventory 60 NH-90 helicopters, which will replace Lynx and Super Frelon helicopters.

Thus, the French Navy, one of the most powerful in the world, continues to develop vigorously in the direction of expanding capabilities for conducting naval warfare.

Background on Peruvian-Ecuadorian Border Conflict

95UM0292A Moscow NEZAVISIMOYE VOYENNOYE OBOZRENIYE (supplement to NEZAVISIMAYA GAZETA) in Russian No 1, Feb 1995 p 2

[Article by Karen Khachaturov, under the rubric: "Conflict": "'Hawks' on the Land of the Condors: The Army's Traditional [unreadable] in Light of the Peruvian-Ecuadorian War"]

[FBIS Translated Text] A territorial dispute of more than 150 years duration between Peru and Ecuador that began early in the age of both states and that is developing into a war possesses visible manifestations and soil mainsprings. Let's begin with the obvious. In 1941 when the belligerent great powers didn't have time for the squabbles of the banana republics, the Peruvian military resolved an ancient dispute in its favor with a short-lived campaign. No other country in modern history has been deprived of land that is practically equal in area to its current territory. Ecuador was deprived of that and moreover lost direct access to the planet's largest water artery—the Amazon River. In 1942, the "Protocol on Peace, Friendship and Borders" was signed in Rio de Janeiro which the parliament of Ecuador assessed as a "document that put an end to the centuries old Ecuadorian-Peruvian territorial border dispute" in connection with its ratification.

Of the 16 border sectors, only one caused doubt, the parties appealed to the United States and a "geographical error" was discovered after four years of cartographic work—a portion of the tropical rain forest between the Samora and Santiago rivers that had not been demarcated and that divided the Condor Mountain Ridge

which has currently been transformed into a battlefield. Previously, the richest reserves of gold and, possibly uranium, had been discovered there. Ecuador considered the Rio Protocol as having lost force and has denounced it since 1960. On the contrary, Peru adheres to the principle of Roman law "pacta sunt servanda"—treaties must be observed. Since that time, a stagnant conflict has been observed in the form of border patrol clashes and balancing on the verge of war in 1981 and 1991. Spurs have jangled, sabers have rattled, and diplomatic notes have been exchanged that accuse each other of aggression both in Lima and in Quito. The presidents of the two countries at one time were the only ones on the continent who had never exchanged official visits. We know, based upon our own bitter experience, that it is a hopeless matter to seek the injured party and the guilty party in any territorial dispute.

The prospect for a reconciliation emerged after Alberto Fujimori came to power in Peru. He was the first of the Peruvian presidents to express a readiness to compromise and visited the neighboring country three times. Ecuadorian President Sixto Duran Ballen and his predecessor assumed that same position. Complimentary comparisons of the presidents of the two countries appeared: both are reformers who decided to modernize archaic socio-economic structures and both broke with the traditional political parties and created parties "under themselves" in the election campaigns. They began to call the Ecuadorian president, who spent eight decades of his life as an architect by profession,—the "architect of peace" and his Peruvian colleague, a representative of a younger generation of politicians—a professional agronomist—"construction superintendent of the peace". War in that situation can appear to be especially absurd but only if you ignore the main actor of the political history of the two states. It's name is—militarism.

The history of Peru and Ecuador is perceived in their mirror reflection. Both states acquired political independence through the force of arms and had identical symptoms: the poverty of the population, half of which even now are Indian-peasants; the struggle of the landed oligarchy in the Andes—the "sierre" [transliterated], with the bourgeoisie of the Pacific coast—the "kosty" [transliterated] that formed the "historical" parties of the conservatives and liberals, respectively; and, the competition of the United States and England, the omnipotence of the Catholic Church, and the privileged position of the military castes with their claim to the role of the nation's shepherd that provoked territorial fratricide.

Militarism was until recently the core of political life in Peru and Ecuador, as it was in a majority of other Latin American countries. The struggle of the regional military elites and generals' cliques gave rise to charismatic caudillos who were true to the precept: "the highest military rank—is the president". That is the Creole variety of Bonapartism. The multi-year authoritarian regimes, including repressive military dictatorships, were replaced by periods of civilian governments under the watchful barracks eye. Developed by their own brain trusts and by the Pentagon, the concept of "military stabilizer" viewed authoritarian regimes as the only expressers of national interests that were capable of uniting antagonistic social forces and of consolidating the states' instability.

It is indicative that it was in Peru and Ecuador, and at the same time—at the end of the 1960's—beginning of the 1970's—that patriotically inclined military personnel, who declared themselves to be the only force that was freed of egotistical group interests and capable of establishing civil peace and the reform of society, came to power under the influence of the liberation process and as a result of recruiting from the lowest ranks of the officer corps. But at that time Pinochet demonstrated that the slogan about the messianic role of the military spiritually armed the "nation's saviors" who overthrew the constitutional regimes.

In our days, the military elites are not abandoning their ambitions despite the general approval of constitutional regimes in Latin America for the first time in its history. President Fujimori was able to resolve the dissolution of parliament approximately three years ago only with the support of the Army. A year later, tanks marched in review through the streets of Lima in a sign of support of the armed forces commander-in-chief who accused the parliamentary opposition of discrediting the army and of complicity toward terrorism. Meanwhile, President Fujimori's indisputable success in eradicating terrorism was accompanied by the Army's outrages with regard to the civilian population. Enemies of the Peruvian president assert that he needs a victorious war in accordance with the traditions of the Japanese samurai and Creole caudilloism on the eve of the general elections. It's another matter that sorting out family problems in his own home—is a simpler matter than a military victory. Fujimori did not appear at a meeting of the heads of state of six Andean countries that occurred recently.

The balance of power is taking shape in favor of Peru, whose population is twice that of Ecuador. The strength of the Peruvian Army is twice that of the Ecuadorian Army, it has three times the number of tanks and aircraft, and, moreover, Peru has Soviet-produced T-54 and T-55 tanks and modern aircraft and helicopters against the enemy's light tanks and obsolete aircraft. It's obvious that a war will spur the arms race not only in the belligerent countries but also in adjacent countries at the expense of economic stabilization programs. This war also undermines the bases of regional integration of the Andean states and the system of inter-American cooperation.

Indeed, there are weighty, reassuring factors in favor of a political settlement of the conflict at its current stage. The craving for peace is equally great in Peru and Ecuador and the appeal for prudence by the leaders of all

Latin American states is unanimous as never before. Washington will hardly endure high-handedness. The former negative external factor is absent: Anglo-American competition and Soviet-American confrontation in the vulnerable areas of the Third World. All of these reasons weaken the positions of the warring parties and the appetites of the "hawks" on the land of the condors on both sides of the border.

PEACEKEEPING/PEACEMAKING

International Treaty Activities of Border Service

95UM0296A Moscow NEZAVISIMOYE VOYENNOYE OBOZRENIYE (Supplement to NEZAVISIMAYA GAZETA) in Russian No 1, Feb 1995 p 6

[Unattributed article: "A Border Under Lock and Key?"; "Concerning the International Treaty Activity of the Federal Border Service of the Russian Federation"; under the rubric: "From the 'NVO' Dossier"]

[FBIS Translated Text] THE INTERNATIONAL-LAW FORMALIZATION OF THE STATE BORDER OF THE RUSSIAN FEDERATION

At present, the Russian Federation has borders with 18 contiguous states. Of its total length of 61 thousand kilometers, more than 13.5 thousand km have not been formalized from the standpoint of international law. These borders include the state border with former republics of the USSR, primarily the borders with Latvia, Lithuania, Estonia, Azerbaijan, and Georgia, and also the borders with Japan and the U.S.

To perform the work associated with legal treaty formalization of the state border, by decision of the Russian government, commissions have been formed for delimitation of the borders with Lithuania, Azerbaijan and Georgia, and also groups of experts for preparation of materials for negotiations of state delegations with Latvia and Estonia.

Estonia has raised the question of territorial claims against Russia to the level of state policy. Location of the border in accordance with the Tartu Peace Treaty was secured not only in the Law on the State Border but also in the Estonian Constitution.

Thus Estonia lays claim to the territory of Russia in the Narva and Pechora areas, with a total area of 2.3 thousand square kilometers.

What is more, Estonia has adopted a Law on Sea Borders in which it unilaterally established a sea border with Russia, defining the final point of the land border in accordance with the 1920 treaty, thus announcing its claims to sea territories of Russia as well.

The course of international negotiations on questions of delimitation of the border has demonstrated that the Estonian side is assuming a rigid position in this question, with the result that the Russian side was forced to take steps to unilaterally mark the border in the terrain.

In accordance with the Order of the President of the Russian Federation of June 18, 1994 No 1275 "On Marking the State Border on the Ground Between the Russian Federation and the Estonian Republic," the tasks of marking of the state border on the land and river sections have been carried out. A total of 682 frontier posts were installed. On the Chudskoye and Pskovskoye Lakes, the work of placing buoys and stakes will continue.

On the basis of provisions of the treaty of August 11, 1920 and documents of demarcation of 1923, Latvia is making territorial claims to the Pitalovo region of the Pskov oblast, with an area of 1.6 thousand km and a population of around 30 thousand people.

Despite the different approaches of delegations to resolution of the question of location of the border, in the course of the negotiations there was complete agreement on the draft description of its location, and a draft treaty regarding location of the Russian-Latvian border was prepared. Sections of the state border where the opinions of the delegation diverged are viewed as a line of temporary demarcation.

On December 14, 1994, inter-governmental agreements were signed with Latvia regarding simplified procedures for crossing of the Russian-Latvian border by residents of border regions, and on the activities of border representatives.

The commission for delimitation of the border has conducted four rounds of negotiations on the border with Lithuania. The sides have exchanged drafts of the treaty on its location on the land and river sections, and work is under way to coordinate it.

In the course of negotiations, disagreements were brought to light regarding the question of location of the sea border. Our position is that the border must run along the mid-line drawn in accordance with the requirements of the U.N. Maritime Law Convention of 1982.

There are fundamental questions regarding determination of the interdependence of the location of the border on Vishtynetskoye Lake and obligations of Lithuania to grant Russian vessels the right of unimpeded navigation in Lithuanian waters of the Neman River for passage to the Baltic Sea.

The work of delimitation of the state border with Georgia has been under way since September 1993.

The Russian commission has almost concluded the technical work of clarifying the line of the former administrative border between Russia and Georgia and preparation of a loose draft of a border description. The description of location of the border line has been

coordinated with subjects of the Russian Federation bordering Georgia (except for Chechnya).

The complexity of the work of delimitation of the Russian-Azerbaijan border arises from the well-known sociopolitical situation in the region, which is associated with the problems of citizens of Lezgin nationality living in border regions of Russia and Azerbaijan.

In accordance with the Agreement on the Russian-Chinese border, work has been under way on its eastern part since spring 1993 to delimit the border, and is expected to be concluded in 1997.

In the field season of 1994, the work of survey and determination of coordinates of border markers was basically concluded, with the exception of three sections of the land border in the Primorsk kray (with an area of 14.65 square km), where to this point no agreement has been reached regarding the location of the border. In the demarcated section 327 front posts have been installed, and 195 foundations have been prepared for their installation. Hydrographic teams have made measurements in sectors of the Amur and Ussuri rivers totalling 643 km in length, and 116 km of clearings have been cut.

Negotiations with China continue regarding the sections of the border on which agreement has not been reached (the island of Bolshoy Ussuriyskiy, Tarabarov in the region of the city of Khabarovsk, and Bolshaya island on the Argun river, with a total area of 395 square km) have gone beyond the framework of the agreement on the Russian-Chinese border at its eastern part.

Agreements have been signed regarding location of the Russian-Chinese border in its western part, on the operating procedures of the Russian-Chinese border, and on the Rules of Navigation of Chinese vessels past the city of Khaborovsk.

Work continues on checking of the state border with Mongolia. Practically all work has been done to mark the line of the state border on the ground. There have been 465 new border markers installed, and 1242 old ones have been repaired. An aerial photographic survey has been carried out on a band of ground along the border, all hydrographic work has been carried out, and 839 km of border clearings have been cut and cleared.

Cooperation with Adjacent States on Border Questions

In order to maintain the operating procedures of the state border, to coordinate efforts for its protection, to combat illegal activity, and to maintain neighborly relations, the Federal Border Service of the Russian Federation is actively cooperating with the border-guard services of contiguous states.

Signed in 1994: The Agreement between the Border Troops of the Russian Federation and the Border Guard of the Republic of Poland regarding cooperation in guarding the state border and monitoring border traffic; intergovernmental agreements with Belarus and Mongolia regarding cooperation on border questions; an inter-state agreement with Ukraine regarding cooperation and coordination on border questions; a Protocol of Cooperation between the Federal Border Service of the Russian Federation and the Department of the Border Guard of the Estonian Republic; a Protocol of Cooperation on questions related to guarding the border in the Gulf of Finland, between the border troops of the Russian Federation, the Border Guards of the Finnish Republic, and the Border Guards of the Estonian Republic; a Protocol between the Border Troops of the Russian Federation and the Border Guards of Finland regarding cooperation on border questions, etc.

Preparations are being concluded for treaty documents on cooperation on border questions with Uzbekistan, Azerbaijan, and China.

Cooperation of border troops with the Coast Guard of Norway and of the U.S. has been further developed.

The basic task in organization of cooperation with border troops of the states of the Commonwealth to reach an agreement (bilateral or multilateral) in questions of guarding the external borders of the Commonwealth.

Agreements have been concluded regarding procedures for manpower acquisition and conduct of military service by citizens of Georgia, Armenia, Kirgizia and Tajikistan in the Border Troops of the Russian Federation on their territories.

Agreements have been signed with Armenia, Georgia, Uzbekistan, Tajikistan, Kirgizia and Kazakhstan regarding free and unhindered transit of military shipments through their territories for the Border Troops of Russia in the interests of protection of the external borders of the member states of the CIS.

For purposes of development of cooperation and further integration of efforts of the border troops of the CIS member states in guarding the external borders, along with the previously signed Memorandum of Cooperation on this question by the Central Asiatic states, these have also been signed: a Memorandum on Cooperation for guarding the state borders of Belarus, Russia and Ukraine, a trilateral Agreement (Russia, Tajikistan, Uzbekistan) on cooperation in guarding the external borders in the Vakhsh area, an agreement signed between Russia, Turkmenistan, Uzbekistan and Tajikistan regarding the use of ships and boats on the Amurdaya River in the border guard. A draft agreement regarding measures for guarding the external border on the Caspian is being worked on.

The development of cooperation on border questions with all the states bordering Russia will make it possible to create a situation of neighborliness on our common borders and to resolve all questions that arise in the spirit of mutual understanding, will make it possible to

develop economic cooperation of the border regions, and overall will meet the interests both of Russia and of the contiguous states.

Basic Work Trends for 1995

—International-law formalization of the state border of the Russian Federation with Latvia, Lithuania, Azerbaijan, and Georgia, with the intention that the process of delimitation of the border with these countries will basically be concluded in 1995.

—Parallel with conclusion of the work of unilateral marking on the ground of the state border of the Russian Federation in the Estonian sector, continue efforts to organize the negotiating process with Estonia regarding the location of the border.

—Conduct of demarcation of the Russian-Chinese border in its eastern sector.

—Conclusion of the work of checking the state border with Mongolia, and preparation of the summary documents.

—Development and deepening of cooperation on border questions with the states bordering Russia.

—Monitoring of compliance with the provisions of treaties and agreements signed with the states of the Commonwealth, on the status of Border Troops of the Russian Federation located on their territories, and also on other questions affecting the interests of the Border Troops.

—Conduct of measures for further development of integration processes of the member states of the Commonwealth regarding border questions, and in the guarding of external borders.

Concerns Over Redeployment of Russian Forces in Yugoslavia

95UM0306B Moscow KRASNAYA ZVEZDA in Russian 23 Feb 95 p 3

[Article by Sergey Sidorov: "Will Vukovar Again Become a Zone of Combat Operations?"]

[FBIS Translated Text] Shipments of fuel and other supplies have been discontinued to the Russian UN battalion in the region of Vukovar. The soldiers and officers have gone to using their "NZ"—emergency reserves, which in most cases are intended for 2-3 months. At the same time, the order has come down from the staff headquarters in Zagreb to prepare for evacuation and removal of all property, except for housing modules. This decision, evidently, was dictated by the harsh position of the Croatian government, which is demanding the withdrawal of the "blue helmets" from the Serb-populated regions of Croatia after 31 March.

If the UN forces leave the "protected zones" in Croatia, then by about May—exactly two years later—the Croat forces will again find themselves one on one with the Krainskiy Serbs. One does not have to guess what will happen next. The battle for Vukovar and Osiyek, and again with the participation of the Yugoslav Army, which will enter on the side of the Krainskiy Serbs, will, without a doubt, be repeated. Only this time it promises to be much more bloody and harsh. This is the conclusion that everyone who is monitoring the development of the Yugoslav crisis comes to. And many still believe that the unthinkable nature of the catastrophe is specifically that line which the Croatian leaders will not dare to cross.

Let us leave aside the question of why Croatia, despite everything, is not opting for desperate measures. That is a topic in itself. Let us see what awaits our military servicemen in this former Yugoslav Republic this Spring, if the UN really does begin a withdrawal. This is far from being an idle question. If the UN leaders decide to transfer the "Rusbat-1" [Russian battalion] (the second batallion is located in the Bosnian capital of Sarayevo) from Croatia to Bosnia and Herzegovina, then according to all the rules they will first have to obtain permission for this from the national government, and we have no reason to agree to either variant.

As we know, in February of last year a weighted agreement was reached between the Russian representatives and the Bosnian-Serb leadership regarding the stationing of Russian "blue helmets" only on the territory controlled by the Serbs. This decision was approved by the UN Security Council. This time, the mission command may fully ask our batallion to go to the region of Bihac—the hottest spot in Bosnia—to protect the territories taken from those same Serbs by the 5th Corps of the Muslim Government Army. The discussion here is certainly not one of empty whims, but of the fact that the possibility of any redeployment of the Russian national contingent must be carefully studied by Russian experts with consideration of all the present-day circumstances. However, for the present, as we learned in the RF MFA [Ministry of Foreign Affairs], no requests have been received for redeployment of the battalion to Bosnia.

If the question arises not of redeployment, but of complete withdrawal of the UN forces, then the first thing the Russian military men, as well as the military servicemen from other countries, will have to deal with is the opposition on the part of the local residents. They will simply not let the "blue helmets" leave the places where they are stationed—the access routes will be barricaded and blocked by women and children, as had already been the case last year, when part of the "Rusbat" was urgently transferred to Sarajevo. Need we say that the effort to break through the human barricade of people pleading for protection against new bloodshed would deal an irreparable blow to the reputation of the UN? Actions on seizing military equipment and weapons belonging to the "blue helmets" are also rather probable. What are they to do in this case? It is quite probable that such a scenario would lead to direct

involvement in the Serbo-Croatian conflict on the part of NATO, whose troops are now preparing to "ensure the withdrawal of UN forces" from the former Yugoslavia.

Then again, the following variant is also possible. At the very last moment, Zagreb will agree to extend the mandate under one condition—that this mandate must be changed. Discussion of its more strict formulation in regard to Serbian military formations have been conducted from the very beginning of the mission. Their essence is reduced to the fact that the task of the "blue helmets" must consist not simply of maintaining peace in the "zones under protection of the UN," but in imposing it by means of forceful disarmament of the Serbian militia men. Considering the sentiments of the Western countries in regard to the Serbs in general, we might expect that at least three of the five permanent members of the Security Council would support the demand of sovereign Croatia. As for Russia, it would find itself in the position of a difficult choice.

On one hand, our own intra-state problems dictate the need for formal solidarity with the Croatian leadership. On the other, Moscow cannot go against its own policy of supporting its traditional ally, Yugoslavia (Serbia, Montenegro) which, striving to retain even a poor peace, but at least a peace, would quite legitimately oppose any change in the mandate. The only thing which we may say most definitely is that a change in the mandate would also mean a direct path to military escalation.

This is the situation in which the second year of service of the Russian "blue helmets" in the former Yugoslavia is being concluded. Only for the last two months has this service been a comparative "honey" assignment for the paratroopers comprising the "Sarajevo" and "Krainskiy" battalions. New trials lie ahead. And while the military servicemen cannot be independent of the circumstances—that is what the army is for, they will always depend on the politicians. During all times, the number of casualties among the military remains a value which is inversely proportional to the wisdom of the politicians and the professionalism of the diplomats. It is not excessive to remind ourselves of this one more time on the Day of Defenders of the Homeland.

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